A COMPANION, OR SUPPLEMENT, TO THE LADIES' DIARY,

FOR THE YEAR 1791:

Containing CALCULATIONS and TYPES of the ECLIPSES of this Year; with an Account of New Comets, &c.

Alſo additional SOLUTIONS to DIARY ENIGMAS, REBUSES, CHARADES, QUERIES, and QUESTIONS, which there was not room for in the DIARY itſelf;

With ſome New ENIGMAS, REBUSES, CHARADES, QUERIES and QUESTIONS, to be anſwered next year.

By the DIARY AUTHOR.

[PRICE SIX-PENCE.]

SUPPLEMENT
TO THE
LADIES' DIARY,
FOR THE YEAR 1791.

ANSWERS TO THE PRIZE ENIGMA, *Poſt.*

11. *Sonnet to Happineſs, by Mr. Phil. Ruſher.*

OH happineſs! great object of mankind,
Tell me, oh! tell me, where is thine abode:
Tho' all admire thee, few, how few! can find,
In men's eſteem ſo various is the road.
The miſer ſeeks thee 'midſt his hoarded ſtore;
A *Poſt* or penſion is the courtier's aim;
Ambition ſighs for power, the bard for fame:
The ſailor loves to rove from ſhore to ſhore.
By diff'rent minds ſtill diff'rent means are try'd,
As diff'rent motives actuate mankind.
Then where, oh happineſs! doſt thou reſide?
If found at all, in a contented mind:
But ſeen ſo rare on earth, the truly wiſe
Seek thee alone in realms beyond the ſkies.

12. *The Provok'd Wife, by Mr. Iſaac Gumley, of Anſty.*

Thou idle, ill-natur'd, thou vile, drinking ſot!
Come home, or I'll break both your pate and your pot;
Come home, rogue, and let your poor children be fed;
Who're clothed in rags, and now crying for bread.
You beat me, you raſcal, from pillar to *poſt*,
Till my patience and almoſt my ſenſes are loſt:
But depend upon this, I no longer will fear;
The law, thou arch villain, ſhall ſtop your career.

13. *Strephon's Addreſs to thoſe ſilent young Readers who ſolve all the Enigmas, Rebuſes, &c. and compoſe poetical Anſwers, with ſome faint Intention of ſending them to the Diary, but are prevented by their own modeſty.*

For general good I would excite,
Ye modeſt youths to venture,
Your ſelf-condemned lines to write,
And by the poſt them enter

To Diary fair, whoſe joyous care,
Is juſtly to ſelect them:
And if ſhe find them to her mind,
Will publickly reſpect them.
But if they with much fault appear,
She'll candidly conceal them:
Which, zealous ſtrive to mend next year,
When pleaſed, ſhe'll reveal them.
Chear ſuch a flame to raiſe your name,
Tho 't fail of the intention;
The good of man and author's plan
Is wrought by ſuch contention.

14. *The Meſſage, by Lavinius.*

" O, dull as a *Poſt!* tell me, what ſhall I do?
This Candlemas-day is ſo near;
Apollo, attend! to thy promiſe be true,
And baniſh this torturing fear."
The God heard my pray'r, and moſt graciouſly ſaid,
Go tell thy adorable Di,
Her praiſe, ſince the moment her plan was firſt laid,
Has rung thro' the high-vaulted ſky.
I thank'd him in raptures, and cry'd, " It is done!"
" Not yet, youth!" Apollo replied:
" Go, bid her the maze of diſſenſion to ſhun,
Alone to the gen'rous ally'd.
And bid her, my darling! as yet ſhe has mov'd,
To move in the path of fair fame;
So, juſtly by virtue and learning belov'd,
Shall ages to come bleſs her name."

15. *Epigram, by Mr. W. Jones, of Heyford.*

To a draper's Allenus once *Poſted* away,
A pair of new breeches to buy;
The pieces were reach'd him without more delay,
When Allenus cry'd, " Pray let them lie:
I think I'll conſult my Anna to night,
I would not proceed harum-ſcarum."
Sly Ellwand reply'd: " Sir, you're much in the right,
For they ought to chooſe who will wear them."

16. *The Invitation, by Longſhanks, addreſſed to Miſs T——— of Hazel-hall.*

Dear Peggy come, haſten to meet
Your friends on the ſide of the hill,
To ſtudy the Diary complete,
And partake of its pleaſures your fill.

Come quickly, and find out the prize,
Or my ſervant *poſt* haſte I will ſend.
Once more let me gaze on thoſe eyes
That have made me your ſervant and friend.

All the Enigmas answered.

1. Cradle,	5. Hope,	9. Dew, or Vapours,
2. Garland,	6. Lamp,	10. Smile,
3. Pen or Quill,	7. Nutmeg,	11. Health.
4. Dream,	8. Wink,	*Prize*, Poſt.

12. *The Stateſman and Clown, by Mr. Rob. Allanſon, of Middleton, Yorkſhire.*

With anxious thought the ſtateſman plies.
And every ſcheme and effort tries,
To gain his ſov'reign's *ſmile*: 10
He dreams of places, penſions, *Poſts*, *Pr.*
And all his ſtock of *Health* exhauſts 11
In unſucceſsful toil.

For him in vain the *roſes* bloom, 2
The *ſpices* ſhed their rich perfume,
And rural ſcenes invite:
The town and court his *Hopes* retain, 5
Where vice and noxious vapours reign,
And *Lamps Wink* out the night. 6, 8

How diff'rent is the ruſtic's lot,
Who in his low but peaceful cot,
Enjoys content and health:
Cheerful he labours through the day,
At night he *lulls* his cares away, 1
Nor ſighs for eaſe and wealth.

13. *The Dream, by Miſs A. B. of Charles-ſtreet, Soho-ſquare.*

Repoſing on my downy *bed*, 1
One morning as I lay,
Gay *Dreams* were floating in my head, 4
It was the firſt of *May*. 2

Fair flow'ry *Garlands* wreath'd on high 2
My fancy'd *eye-ſight* drew, 8
And nymphs and ſwains in paſſing by
Trip'd lightly o'er the *Dew*. 9

A youth nam'd *Health*; a bev'rage brought, 11
Of milk, with *Nutmeg* crown'd; 7
Elate with *Hope* each boſom wrought, 5
The *Graces* mov'd around. 10

A *Poſt* of honour ſeem'd the prize, *Pr.*
For which they all prepare:

My *Lamp* fell down with clatt'ring noiſe, 6
I wak'd to human care.

14. *On Improvement of Time, by Mr. W. P. Burman, of Beverley.*

Dear ladies, laſt year's *Hope* is run, 5
Another has its courſe begun,
And *Poſts* continual on ; *Pr.*
Thro' which life paſſes like a *Dream*, 4
Or *Dew-drops* in the ſun thus ſeen ; 9
'Twill ſoon, alas ! be gone.

Let wealth with *Smiles* the poor befriend, 10
Since life, like *taper*, ſoon muſt end, 6
Tho' *Health* may now appear ; 11
Reflect on this, and think how ſoon,
Betwixt the *Cradle* and the tomb, 1
That *Garland's* wither'd here. 2

Ye drunkards, and ye idle, who
Your time and money ſpend in ſhew,
And feaſt on *ſpice* repaſt ; 7
Pen down this, and ſober be, 3
Since time's the great devouring ſea,
Where you muſt plunge at laſt.

15. *Ode to Spring, by Mr. John Burrow of Boltonfield.*

Come, gentle muſe, and let me ſing
The beauties of the *Healthful* ſpring, 11
And hail the lovely gueſt ;
For it *Poſts* on with gentle pace, *Pr.*
And *Smiling* ſhews its cheerful face, 10
In vernal ſoftneſs dreſt.

The *Lamp* of day advancing nigh, 6
Whoſe warm beams *glancing* from on high, 8
Still cheers us more and more ;
With gentle gales enrich the earth,
To bring the Indian *ſpices* forth, 7
And waft them to our ſhore.

The feather'd ſongſters of the air,
Whoſe neſts are *penn'd* with art and care, 3
Sweet harmony do keep ;
Tranſported at returning ſpring,
While zephyrs gently born on wing,
Do *rock* their young aſleep. 1

The *ſnow-drop*, bright with morning *Dew*, 2, 9
Does in pure robes of lilied hue
Firſt of the train appear ;

The primroſe rears his fragrant head,
Gay daiſies deck the verdant mead,
And *grace* the bluſhing year. 10
True emblem of the joys above,
O! may we ſtill our minds improve
While on this earthly ſhore;
That when life like a *Dream* is paſt, 4
We *Hope* we may in heav'n at laſt
Rejoice for evermore. 5

16. *Mr. Thomas Eland's Addreſs to Mr. and Mrs. Richardſon.*

Hail happy pair, I greet you now,
Soft partners in the nuptial vow;
Long may you live in *Health* and peace, 11
And rolling years your bliſs increaſe:
Let each a *Lamp* to other prove 6
In the kind offices of love;
Strive who ſhall ſerve, not who ſhall ſway,
Who loves the moſt will moſt obey:
Wink at the foibles each may have, 8
Perfection is beyond the grave.
Soon may your happy cot be ſtor'd
With children *Smiling* round your board; 10
Who, like their Dad. and Mam. may riſe
Diarian champions for the prize.
Let the gay dreamers of gay *Dreams*, 4
For *Poſts* of honour plan their ſchemes, *Pr.*
You in your rural cot ſhall find
Domeſtic happineſs refin'd;
View, with increaſing joy and pride,
The *Cradle* rocking by your ſide, 1
With maſter Bob, your hope and care,
And *Garland* crown the little heir. 2
Thus may you live, and thus enjoy
What *nothing* earthly can deſtroy: 3
Late, very late, when death ſhall call,
Tears ſhall, like *Dew-drops*, plenteous fall 9
From every eye,—nor that ſuffice,
We'll bring the *ſpices* of our ſighs. 7

17. *The Enigmas anſwered by Miſs A. F.*

One ſummer's eve I chanc'd to ſtray
Into a pleaſant field,
And pluck'd ſweet *flowers* by the way: 2
What pleaſure ſpring doth yield!
It makes the primroſe in the woods,
The *twinkling* violets grow, 8

The trees all green with all their buds,
The bluſhing roſe to blow.
I walk'd along o'er many a plain,
And view'd the *Smiling* corn, 10
When liſt'ning to the tuneful train,
The *Poſt*-boy blew his horn. *Pr.*
And pleaſant to my ear it ſeem'd,
Being *Healthful*, briſk, and gay, 11
Then thought perhaps I only *Dream'd*, 4
Till he came faſt away.
Receiv'd a letter from a friend,
A *Nutmeg* was incloſ'd, 7
She *Hop'd* a *Cradle* I would ſend, 5, 1
Her child took no repoſe.
Then wet with *Dew* return'd at night, 9
And made a little fire,
Prepar'd my *Lamp*, my *Pen* to write, 6, 3
My wiſhes ſoar'd no higher.

18. *The ſame anſwered by Mr. G. Harris, of Finedon.*

Dear lady Di, pray let me try
Your riddles to explain,
For they delight, in winter night,
The fair to make out plain.
A *Cradle* how we often know 1
Does innocence beguile,
And *Garlands* gay, on ſweet May-day, 2
Do eaſe the milk-maid's toil.
They *trip* the plain, with each her ſwain, 3
And lead the jocund dance;
No *Dreamer*'s by, all mirth and joy, 4
Except a maid by chance,
Whoſe *Hope* is paſt, of binding faſt 5
The hands of her and ſwain;
The *Lamp*'s bright glaſs is broke, alas! 6
And friendſhip's brittle chain.
They *Nutmeg*'d beer in bowls prepare, 7
To cheer the ruſtic throng,
No *nod*ding plumes, nor rich perfumes, 8
Attend young Roger's ſong.
The *gliſt'ning* thorn does deck the morn, 9
The feather'd people ſeen,
And modeſt *grace* does paint the face 10
Of her who's May-day's queen.
With mirth profound a *Health* goes round, 11
To George our ſov'reign king;

May each bold tar, *Poſted* in war, 12
Its ſpoils to harbour bring.

19. *Addreſs to Lady Di, by Long ſhanks.*

Dear madam, 'tis true,
Great pleaſure in you,
Your yearly contributors find;
The *Garland* of fame, 2
In *Hopes* for to gain, 5
As you ſhew a compaſſionate mind.
Once more then I try,
Or *Dream* I deſcry 4
A *Cradle*, a *Nutmeg*, and *Lamp*; 1, 7, 6
A *Wink*, or a *Smile*, 8, 10
A heart may beguile,
And the circle of pleaſure may *damp*. 9
Devoid of a Poſt, *Pr.*
Good *Health* I can boaſt, 11
Alike free from ſickneſs and pain;
And far may they be
From friends and from thee,
And a reader I ſtill ſhall remain.

20. *A Birth-day Ode, by Lavinius.*

Rock'd no more in night's embraces, 1
While the morning gales ariſe,
Sol, adorn'd in mildeſt graces,
Darting orient o'er the ſkies.
While the virgins from their ſlumbers
Riſe and weave their *Garlands* gay, 2
Something joins the flowing numbers, 3
Singing Celia's natal day.
Lovely Celia, fair and blooming,
Dreams of *Hope* and bliſs inſpires; 4, 5
Cheerful all, and unaſſuming,
Lamp benign of chaſte deſires. 6
Spicy ſweetneſs, ever charming, 7
Care-diſpelling, laughing joy,
Smiling welcomes, frolicks warning,
Wink and wanton in her eye. 8
Lo! her pale-brown ringlets flowing,
Down her white neck artleſs rove:
Maid endearing! panting, glowing,
All that view her inſtant love.
Prudence oft in whiſpers calling,
Pointing to the rightful road;

Soft as *Dew-drops*, mercy falling, 9
Darling emblem of her God.
Charms like theſe, and other merit,
Might an abler bard inſpire;
Health of body, peace of ſpirit, 11
Ev'ry heart muſt ſure admire.
Such ſhe is, in grace refulgent,
Such can never ceaſe to be;
Rapture! would ſhe then, indulgent,
Smile with kindneſs, ſmile on me; 10
Gay, the roſy hours, delighted,
Shedding odours, freſh and ſweet,
(All their weary ſteps requited)
Swift would *Poſt* on even feet. 12
Then, again, ſublim'd by pleaſure,
Glad I'd ſweep the trembling ſtrings:
Now, even now, in Fancy's meaſure,
Hark! the muſe, enraptur'd, ſings:
"Wake ye, ſhepherds! from your ſlumbers,
Weave your garlands, virgins gay!
Trip it, all! to ſofteſt numbers;
This is Celia's natal day."

21. *Addreſs to Mrs. Blanch Lean, by Mr. David Robarts, of St. Columb, Cornwall.*

Ah! why too ſoon quit Dia's page?
Which once ſo much claim'd your regard;
'Tis not death!—no, nor ev'n old age,
Your writing to her have debar'd.
Thou charmer of my infant grief,
Again be pleas'd ſuch lines to write,
To give afflicted minds relief,
And fill the ſoul with calm delight.
How oft in childhood was I pleas'd
To hear thy numbers ſweet rehears'd;
If then with anger I was teas'd
Oft'times my paſſions they revers'd.
If a *Cradle*, a *Lamp*, or a *Dream*, 1,
Hope, *Dew*, *Smile*, *Nutmeg*, or *Sight*, 5, 9, 10, 7,
Or whate'er elſe might be the theme,
Each in their *Poſt* they'd give delight. 12
May *Health* in your dwelling abound, 11
As the *Bloſſoms* adorn the ſweet ſpring; 2
Whilſt your works in this book ſhall reſound,
Be it mine in your praiſe ſtill to ſing.

22. *Ode to Spring; anſwering the Enigmas, Rebuſes, and * Charades, by Mr. Joſ. Nendick, of Old Malton.*

Once more Vertumnus decks the valleys,
Woods and grottos, groves and dells,
The matin lark in ether ſallies
Far above his tranſient cells.
Twinkling Phebus now comes peeping, 8
To ſalute the radiant morn,
Brown and *Baldwin* ceaſe your weeping,
Carmine does your cheeks adorn.
Now weeping April's mildeſt ſhowers
Drop from yonder azure blue,
And *cheer* the *earth*—*ſpring Garland* flowers, 2
This ſweet od'rous heav'nly *Dew*. 9
See how the ſtreams from cryſtal fountains
In meanders gently glide,
While *Iris'* ſelf o'er burniſh'd mountains,
Smiles array'd in vernal pride. 10
In ſpring's gay morn confined debtors
All *expreſs* a gen'ral gloom; 12
But *Clare* un*lock*'d from *bondage* fetters,
Juſtly boaſts of rural dome.
Now ſprightly maids for ſportive pleaſures
Perambulate the flow'ry dales,
Where chanting birds in dulcet meaſures,
Sweetly harmonize the vales.
Lo, at ſome tavern, jolly topers
Health impair by taper's gleam, 11
And ſwallow ch*ink* down gaping coffers, 3
Heedleſs of a *nightly Dream*. 4
Waſte not your time in recreations,
The flow'r of life is quickly ſhorn,
For *death*, how awful! tumbles nations
As ſcythe and *Cradle* tumble corn. 1
Prepare your *Lamps*, ye ſparkling *laſſes*, 6
To light you on to endleſs day;
Take *Lee*'s advice—quick run your *glaſſes*
While you're in this houſe of clay.

* *Though we have inſerted this general ſolution to the Enigmas, Rebuſes, and Charades, it is not to encourage ſuch general ſolutions, which we cannot approve of, as they are either unavoidably too long, or imperfectly deſcribe the ſeveral ſubjects, or preclude a ſolution to the latter in the proper place; for which reaſon we hope none of our correſpondents will attempt ſuch ſort of over-general ſolutions in future.*

23. *An Invitation, by Mr. John Singleton, of Aſhton Free-ſchool, near Wigan.*

Come, Delia, let us *poſt* away 12
To yonder *ſhady* grove, 8
Where *Smiles* and *Health* their charms diſplay 10, 11
To whiſper tales of love.
Lur'd on by *Hope* and fond deſire 5
To taſte th' enamell'd *ſweet*, 7
We'll joyous roam, and ſtill admire
How circling moments fleet!
A *Garland* of the choiceſt flow'rs 2
I'll there to you preſent,
Nor *Dream* of ill within thoſe bow'rs, 4
But joy and merriment.
How ſweetly we may there employ
Our time within the dale!
Nor *Pens* nor *Cradle* to annoy 3, 1
Our bliſs as we regale.
We'll feaſt on love while laſts the day,
At night when *Lamps* appear, 6
O'er *Dew*-beſprinkled lawns ſo gay, 9
We'll to the town repair.

24. *Ode to Health, by Mr. Geo. Stevenſon, of Howdon-dock.*

Sweet nymph, whoſe *Smil*ing air and face 7, 10
Cheers when beheld the human race,
When abſent, life's *Lamp* faintly *ſhines*, 6, 8
Our ſpirits droop and ſtrength declines;
Swift time all day ſeems then to creep, *Pr.*
And troubled *Dreams* diſturb our ſleep: 4
Not ſpring's *gay* ſeaſon then can charm, 2
Nor *Dewy* lawn—nor noon-tide warm. 9
May we, whilſt *thou* and youth are near, 11
For your departure now prepare,
And grace implore without delay,
'Till *Hope* is loſt in endleſs day. 5

25. *Strephon's Invitation, addreſſed to the Diary Correſpondents.*

Fain would my fault'ring muſe invite ye,
(Ye tuneful of Diaria's train)
To theſe bleſt bowers that may delight ye,
That *bloom* on mild Arcadia's plain. 2
Where *Health* and ſpring for ever *Smil*ing, 11, 10
Nor Autumn's frown deforms the year;

Spices nor *Pens* our hours beguiling, 7, 3
For rural mirth's unrivall'd here.
Here Damon with young Phillis wanders,
And Collin with his fair Phebe,
By yonder riv'lets lov'd meanders,
And Delia arm-in-arm with me.
Not only theſe, but all intreat ye,
Throughout the whole paſtoral train;
Oh! might we humbly hope to meet ye,
And make ye welcome to our plain.
Unrock'd you'd *cloſe your eyes* in ſlumber, 1, 8
Your *Dreams* be fill'd with fond delight; 4
Till Sol, fair *Lamp!* ſhew without number, 6
Dew-drops than diamonds far more bright. 9
And oft' we think how great the pity,
That ſuch a ſweet and ſocial band
Be doom'd to dwell in diff'rent city,
Diſpers'd like you through ev'ry land.
For once dear friends be congregated,
Poſt to this pure celeſtial ſphere, 12
With your lov'd m*uſe* be recreated,
And conſtitute elyſium here.

ANSWERS *to the* REBUSES *and* CHARADES.

Rebuſes.	*Charades.*
1 Carmine	1 Woman
2 Baldwin	2 Padlock
3 Lambert	3 Nightcap
4 Louiſa Harpur	4 Ear-ring
5 Henry Lee	5 Snowdrop
6 Miſs Brown	6 Tombſtone
7 Glaſs	7 Rainbow
8 Sally Clare	8 Bondage.

7. *The Reproof; by Mrs. M. H.*

For ſhame, Diarian Cynics! Gents forbear,
With "*Wo* on *man*," t' inſult the Britiſh fair;
Theſe two years paſt ſuch woeful tales you've told
Of grandam Eve, and carefully enroll'd
Her gentle daughters, that I dare preſage
You'll ſhortly baniſh from Diaria's page
Each charming female candidate for fame,
And conſequently Dia's very name.
On *Padlocks, Nightcaps, Ear-rings*, wreak your ſpleen;
Let *Snowdrops, Graveſtones, Rainbows, Bondage*, ſcreen

The fair from blame and ſatire indirect,
Nor Nature's laſt beſt gift want due reſpect.

8. *The Rebuſes and Charades anſwered by Mr. W. P. Burman, from a* Tombſtone *of a very beautiful young Lady, in Beverley-Minſter, who died January 1ſt,* 1790, *aged* 18 *years.*

Bluſh not, ye fair, to own me, but be wiſe, 1
Nor turn from ſad mortality your eyes;
Fame ſays, and Fame alone can tell you true,
I once wore *Ear-rings* and look'd gay like you. 4
Where are my vot'ries, where my flatt'rers now?
Since bound in *Bondage* from each lover's vow. 8
Adieu thoſe eyes, that by death *Padlock*'s hung, 2
No more, alas! is heard that *Harper*'s tongue; 4
Adieu you roſes red, and *Snowdrops* white, 5
And *Rainbow* too excluded from my ſight; 7
Turn from your *glaſs*, and now behold in me 7
At once, what thouſands can't, or dare to ſee.
To *Lambert's* ſwains this leſſon 'twill impart, 3
The trueſt dictates to direct the heart.
Miſs *Baldwin* and Miſs *Brown* muſt this believe, 2, 6
The grave may terrify,—but can't deceive.
No more Miſs *Clare* on beauty's aid depend, 8
Here youth and pleaſure, age and ſorrow end.
Here drops the *Maſk*, and ſhuts the *nightly* ſcene, 3
Nor differs grave three ſcore from gay fifteen.
All paſs alike to that ſame goal, the *Tomb*, 6
Both *Lee*'s ſtrong ſenſe, and *Woman*'s fragile bloom. 5, 1

9. *The Wedding, by Miſs Betty Claxton, of Benwell, near Newcaſtle upon Tyne.*

The *Carmine*'s come, prepare harmonious *Lee*, 1, 5
To paint Miſs *Brown*, *Sally Clare*, and me; 6, 8
Methinks I hear the ſweet connubial throng
Of lads and laſſes tune the marriage ſong:
Health to *Baldwin*, to Miſs *Lambert* peace, 2, 3
Love and concord evermore increaſe:
With mirth and friendſhip make the *Glaſs* to paſs, 7
Hail welcome *Harpur*, that ſweet lovely laſs. 4

10. *Addreſs to Miſs Harpur, by Mr. Joſ. Cowing, of Newcaſtle upon Tyne.*

How ſtrange is the wonder, dear *Harpur*, we've here! 4
Lo, *Nightcaps* and *Padlocks*, for ladies to wear. 3, 2
Now truſt me, I'm ſorry a *Woman* to blame, 1
Who by a baſe huſband is brought to ſuch ſhame;

A plague on his jealouſy, dear *Baldwin* beware, 2
And lovely Miſs *Lambert*, ſo gentle and fair, 3
Leſt you ſhould by *Carmine* be wheedl'd away, 1
And force your ſweet blooms to a ſudden decay.

11. *The Charades anſwered by Mr. Rich. Dening, of Chardſtock.*

A *Woman*, a *Padlock*, and *Ear-ring* of gold, 1, 2, 4
Three of the Charades will doubtleſs unfold;
A *Nightcap*, a *Snowdrop*, and *Bondage*, if right, 3, 5, 8
With *Tombſtone* and *Rainbow*, the whole bring to light. 6, 7

12. *The Rebuſes and Charades anſwered by Mr. J. Elliott, of Malton.*

No colour i' th' *rainbow* with *Lambert* can vie,
Whoſe mind is leſs pleas'd with her *glaſs* than with Di:
Miſs *Brown*, *Sally Clare*, and Miſs *Baldwin*, conſent,
To meet *Lee* and *Harpur* in Fame's Supplement;
No *Woman* for *Ear-rings* in *Bondage* would be;
Moſt fair ones from *Padlocks* now wiſh to be free,
A *Tombſtone*, like *Snow drops*, may fall to decay,
But ſcience ſhall laſt till *Night caps* the laſt day.

13. *The ſame, by Mrs. Margaret Fitzgerald, of Old-Moſs, Cheſhire.*

Your Charades and your Rebuſes I'll here try to ſhew;
Will not *Carmine*, with *Baldwin*, pray ſolve the firſt two?
Lambert, *Louiſa Harpur*, and learned *Henry Lee*,
Will, as ſure as a gun, make clear the next three;
Brown, *Glaſs*, *Sally Clare*, I think, as I live,
The other three anſwers will right truly give.
Now come on the Charades, and at them I'll ſlap;
Firſt *Woman*, then *Padlock*, and next a *Nightcap*;
Then *Ear-ring*, and *Snow-drop*, with *Tombſtone*, will ſtraight
Make three more appear, and bring unto light;
Then *Rainbow* and *Bondage* come next to your eyes,
And *Poſt* haſte I ſend them, in hopes of the prize.

14. *The Charades, by Mr. Wm. Gradidge, of Canterbury.*

Away dull *Night*, the morning riſes fair; 3
Come, Sylvia, come, and taſte the freſh'ning air.
Hence gloomy thoughts of *Tombſtone*, death, and *age*, 6, 8
Some brighter ſubject muſt our time engage;
Say, lovely *Woman*, ſhall the prieſt unite, 1
And wed*lock*'s joys confirm kind nature's right? 2
Doſt ſay, why *drop* theſe accents to my *Ear*, 5, 4
'Tis Cupid's *bow* that bids thee nought to fear; 7
Thy ſwain is true, then yield thy willing heart,
And heaven grant us never more to part.

15. *The Charades in the Supplement anſwered by Mr. J. Hunt, of Stony Stratford.*

Hark! what melody reigns in the grove,
Now *Snow-drops* and lilies are ſeen; 4
For 'tis ſpring is the "mother of love,"
'Tis ſpring ſpreads a carpet of green! 5

See the *Rainbow*, whoſe beautiful dyes
Encirle the watery cloud; 7
What variety dazzles our eyes,
What ſplendor by all is allow'd.

'Tis the ſhepherd that ranges the fields,
Unus'd to *reſtraint*, or to care; 8
Whoſe life true felicity yields,
So long as he meets with his fair.

By the ſide of a murmuring ſtream,
Whoſe *pebbles* tranſparent appear; 6
Dear Phillis alone is his theme,
He's happy if ſhe is but near.

So their days in tranquillity move,
Nor know they ambition or noiſe;
But with ſolitude, freedom, and love,
Content crowns their innocent joys.

16. *The Rebuſes, by Miſs Nancy Linſow, of Scalemire.*

Dear ladies of fame,
Renowned by name,
Miſs *Sally* her compliments ſends,
And hopes it will be
Convenient to *Lee*,
To meet his Diarian friends.
With *Baldwin* the fair,
And *Lambert*, whoſe ſhare
Of merit with *Harpur* can boaſt.
The roſy Miſs *Brown*,
Whoſe value's unknown,
In many a *Glaſs* is a toaſt.

17. *Ode to Modeſty, by Miſs Eliza S——, of the Dale.*

Hail, lovely Goddeſs of the woodland ſcene,
Of accent mild, of ſweetly-timid mien;
Advance in ſpotleſs innocence array'd,
Forſake the vale, be all thy charms diſplay'd,
While riſing bluſhes on thy cheeks beſtow,
More laſting bloom than *carmine*'s deepeſt glow; 1
Nor boaſts the damaſk roſe ſuperior hue,
Impearl'd at morn, with orient drops of dew:

In *Baldwin*'s ev'ry grace thy pow'rs combine, 1
With luſtre bid the mental beauties ſhine.
On *Lambert*'s num'rous train of ſighing ſwains, 3
'Tis thine, faſt to unite the binding chains.
Ah! could I tune *Louiſa Harpur*'s lyre, 4
Thy praiſes ſhould each tuneful chord inſpire;
But thou, devoid of ornament, can pleaſe,
Nor need'ſt thou crave the foreign aid of theſe;
Yon humble maid, ſoon as the ſhades are fled,
With hat of ſtraw, and *Nightcap* on her head, 3
Trips o'er the meads, diveſted of each art
Save what thy natal charms ſweet nymph impart.
When bolts nor bars, nor *Padlock* can confine, 2
A gentler force thy ſilken cords entwine;
Thou lovlieſt grace of *Woman* kind, ah! ſay, 1
From thee one moment who would wiſh to ſtray.

18. *On the Death of a Friend, by Mr. John Singleton, of Aſhton Free-ſchool, near Wigan.*

Alas, he's gone! the much-lov'd youth is flown,
Yon *Graveſtone* ſhews he's number'd with the dead; 6
Grim death in *Bondage* holds him as his own, 8
His *Glaſs* is run, his circling moments fled. 7
No more with him ſhall I renew the tales
Of *Lambert*, *Brown*, or of fam'd *Sally Clare*; 3, 6, 8
Nor talk of *Lee* within the flow'ry dales, 5
Of witty *Harpur*, or of *Baldwin* fair. 4, 2
No more ſhall I th' inſtructive lectures hear,
Which he of *Rainbow* or of *Carmine* told, 7, 1
Whene'er we wander'd yonder woodlands near,
Where *Snowdrops* fair their beauties all unfold. 5
How bleſt the *Woman*, who to ſuch a ſon 1
Gives birth! ſhe *locks* him in her foſtering breaſt; 2
On *Ear-rings* gay her fancy ne'er does run, 4
But in her *Nightcap* ſweetly ſinks to reſt. 3

19. *The Dream, by Mr. R.——T——.*

Some gloomy winter's ev'ning, ev'ry year,
Diaria's wit and well-taught pages cheer;
And oft the fair ones in her train conſpire,
T' enforce the pleaſures of a Chriſtmas fire—
One ev'ning their productions having read,
I went, well pleas'd and entertain'd, to bed—
O'er me his downy wings ſleep gently drew,
And on my ſenſes ſhed his balmy dew;
When my yet ſleepleſs ſoul a viſion wrought,
In dream, which oft renews our waking thought—

A room there ſeem'd before my raviſh'd ſight,
Where luſtres ſparkling ſhed diffuſive light,
Where, in the bloom of youth, with grace advanc'd,
To join the mazes of the circling dance,
A lovely female train; each beauteous maid
Above, or *Carmine*, or the lily's aid—
The circling figure fair Miſs *Baldwin* led—
Miſs *Lambert* next proceeds with active tread—
But with what pleaſure did my fancy view
The fair *Louiſa Harpur* theſe purſue;
Whoſe ſweetly-flowing verſe, whoſe poliſh'd mind
Reflect an ornament on *Woman*kind—
Whoſe———; but whither my muſe the verſe prolong;
Let prudence *lock* thy vain aſpiring tongue;
And leave to *Henry Lee*, who knows ſo well,
Her ſhining merits, and her charms to tell;
Thy ſkill the beauties of Miſs *Brown* invite,
Whoſe fancy'd form afforded ſuch delight;
Methought a *Glaſs* ne'er ſhew'd a lovelier face,
That none e'er mov'd with more majeſtic grace;
Th' angelic maid my ſoul with tranſport view'd,
With tranſport trac'd the maze the fair purſu'd—
Miſs *Sally Clare* too was the laſt to join,
The laſt in order, though not laſt divine—
Her form appear'd complete in ev'ry part,
Adorn'd with ev'ry charm of nature's art—
The *Ear-ring*, glittering through her auburn hair,
Lodg'd on a boſom as the *Snow-drop* fair;
The features of her face ſeem'd to conſpire
To fix th' admiring eye, and love inſpire—
Such were the charming maids my fancy knew,
And other Cyprian belles appear'd to view—
And now each lovely boſom pleaſure cheer'd,
And youth in all its gaiety appear'd—
With active ſtep the ſportive dance went round,
While dulcet notes in harmony reſound—
Charm'd with the happy ſcene, my ſoul elate,
In ſympathy (which nought of joy abates
Whene'er the fancy Morpheus makes his care)
Enchanted, ſeem'd their happineſs to ſhare;
Seem'd in the round to join each lovely maid;
By beauty's blooming charms and pleaſure ſway'd—
But oh! what words can to the mind impart
The ſad ſenſations of my woe-fraught heart,
When to my gay enraptur'd thought appear'd
Sudden, a gloomy *Graveſtone* horrid rear'd—

Ah! muſt thoſe ſweetly blooming charms decay?
Muſt they become foul clods of earthy clay,
And in the loathſome grave in *Bondage* lie!
Thoſe charms that with divinity may vie!
The melancholy thought my ſoul oppreſt,
And rous'd my mortal ſenſe from drowſy reſt.

The elegance of the foregoing ſolution muſt atone for the uncommon length of it. We ſhall be obliged to the ingenious author for his addreſs, the next time he favours us with his compoſitions.

20. *The Rebuſes, by Tantalus.*

Our friend *Henry Lee*, who's no foe to a *Glaſs*, 5, 7
Has of late fall'n in love with a beautiful laſs,
Sweet *Louiſa Harpur*, a girl in her prime, 4
Whoſe ruddy complexion needs no aid of *Carmine*, 1
In ſuch ſoft rural ſtrains, he has told her his mind,
That he doubts not, the fair one to him will prove kind —
Now *Baldwin*, *Brown*, *Lambert*, and fair *Sally* may pine, 2, 6, 3, 8
Nor longer pull caps for the fav'rite of the nine.

21. *The Charades, by Miſs Thorpe, of York.*

O'er vernal meads which *Snowdrops* grace,
Eugenia ſtray'd alone;
Strong marks of *grief* o'erſpread his face,
While thus he made his moan.

"No *Nightcap* need I e'er put on,
But penſive wander here;
For the dear *Woman* far is gone,
My ſuit ſhe would not hear.

Oh! were I from love's *Bondage* free,
In yonder *Bow* I'd find,
Freſh beauties riſe, but ah! poor me,
A *Padlock*'s on my mind."

22. *The Rebuſes and Charades, by Mr. I. Tindale.*

Whilſt abler bards their muſe invoke,
And ſtrike the lyric ſtring,
With minds quite free from *Bondage* yoke, 8
The charms of *Baldwin* ſing. 2

Let me, a youth unſkill'd, prepare
To ſail on Dia's main;
My rudder ſteer'd by *Brown* or *Clare*, 6, 8
The much-wiſh'd port ſhall gain.

I envy not *Lee* the laurel he gains, 5
Whoſe muſe does the *Rainbow* outvie, 7
My only ambition is the favour t' obtain
Of lovely Miſs *Harpur* and dear lady Di. 4

Ah! would the dear *Woman* attend to my tale, 1
Delighted the moments would move,
Sweet violets and *Snow-drops* I'd cull in the vale, 5
And *Ear-rings* preſent to my love. 4
As a token of friendſhip Miſs *Lambert* would give 3
A *Nightcap* and box of *Carmine*, 3, 1
And happy, dear fair one, together we'd live,
If *Padlock* our hearts could entwine. 2
But if perchance that fate's deny'd,
The *Glaſs* no longer cheers, 7
In *Graveſtone*'s aid I'll then confide, 6
And ſink beneath my cares.

ANSWERS TO THE QUERIES.

Query 1. *Anſwered by Mr. John Burrow, of Boltonfield.*

Hobſon was an inn-keeper at Cambridge, ſome ſay of Oxford, and kept a ſtable of hackney horſes, which he let out for hire. The ſtable was a great length, and the door at one end, the horſe next the door being always taken; and when returned, he was put in the ſtall next the other end; and every one that wanted a horſe was ordered to take that next the door, or none; hence came the phraſe, "Hobſon's choice;" *that or none.* Every horſe, as he returned, being thus put at the other end of the ſtable, all the reſt of the horſes were ſhifted a ſtall nearer the door, till they had all gone round in their turns.

It is ſaid this is the ſame Hobſon, the carrier, upon whom, on his dying in the time of the great plague, Milton wrote two droll epitaphs, which are printed among his miſcellaneous poems. See alſo the preface to his Paradiſe Regained.

Query 2. *Anſwered by Mr. Joſ. Cowing, of Newcaſtle.*

It is difficult to ſay when they originated; but we find them firſt among the Heathens, and their oracles aroſe from the ſame ſource that idolatry ſprung from. The hieroglyphic characters, uſed by the ancient Egyptians, were the firſt we find on record, and the chief of theſe ſymbols were called Oſiris and Iſis; the firſt being the ſymbol of the ſun, or the revolution of the ſolar year; the ſecond, that of the earth, teaching the Egyptians when to ſow and reap; alſo to acquaint them of the time of the ebbing and flowing of the river Nile. Theſe characters in proceſs of time became deities, and had ſtatues erected, temples built to them. The chief of theſe temples were two; that in Paleſtine, which in ſacred hiſtory is called Baalzebub, and the other in Delphi, or Delphos, built in ho-

nour of Apollo. The firſt of theſe, according to heathen theology, was built upon the ſpot of ground where Jupiter appeared to Bacchus (at his requeſt, being ſtraitened for water to refreſh his army when warring againſt the Indians) in the form of a ram, and opened a fountain with his foot. This fable is nothing in fact but the hiſtory of Nimrod, the grandſon of Noah, where he is called in ſcripture, the mighty hunter before the Lord, becauſe he by his means extirpated the wild beaſts or robbers (or thoſe Indians that haunted the deſerts of Lybia where his temple was erected) that aſſaulted them. Hence this Jupiter is no other than Ham, the younger ſon of Noah. It is for this reaſon that the Heathens gave this character Oſiris, the name of Hammon (corrupted from Ham) or Ammon; and from hence aroſe the title Jupiter Ammon.—The temple of Delphos was founded upon a ſimilar circumſtance, and alſo aroſe from Oſiris and Iſis, which in fact were no other than Noah and his wife, which afterwards became the Jupiter and his wife Latona, ſo famous among the Heathens.

The ſame, by Mr. John Jackſon, of Hutton-Rudby School.

The firſt oracles we read of were Jupiter Ammon, in Africa, and Jupiter Dodonus, which latter was the moſt ancient oracle of Greece, and derived its name from Dodona, a mountain of Chaonia, in the region of Moloſſi, near which was a grove of oaks ſacred to Jupiter, and whoſe leaves were ſtoried to have been vocal, though others report that two doves proclaimed the oracles. We alſo read of the oracle of Apollo at Delphos, which Vertullian and Voſſius ſay was actuated by diabolical operation, and that the devils gave out ambiguous anſwers. We alſo read of Amphiaraus, and Trophonius, with many others: the latter made a great cave in Bœotia, where he uſed to give out his oracles; and after his death, it was ſaid a ſpirit entered into it, and ſupplied his place. But Euſebius, Ariſtotle, Demoſthenes, and Cicero, with many others, were of opinion that oracles were only the cunning tricks of the prieſts, by which they impoſed upon the credulous, under the colour of inſpiration and prediction from the gods, who ſpoke by their mouths concerning things to come. And indeed the cheat is obvious; for their predictions were always given out in ſuch ambiguous and obſcure terms, that whatever was the event, the phraſe could eaſily be wreſted to prove the truth of the oracle; as when king Pyrrhus, before he made war with the Romans, conſulted the oracle at Delphos, and received this anſwer, *Aio te Aecide Romanos vincere poſſe*, which he read, *Te poſſe vincere Romanos*; but being overcome by the Romans, he was told he ought to have read, *Romanos poſſe vincere te*. And many others might be quoted.

The ſame, by Mr. Henry Mellanby, of Stockton upon Tees.

The moſt famous of all the Paleſtine oracles was that of Baal-zebub, king of Ekron, which the Jews themſelves went to conſult. The celebrated Kircher, to undeceive the credulous, and to account for ſome ſtrange things that are related of the Delphic oracle, contrived and fixed a tube ſo in his bedchamber, that when any one came to call him at the garden gate, next to his lodgings, though they ſpoke no louder than ordinary, he heard them as plain as if they had been in the room, and returned them an anſwer with the ſame eaſe of conveyance. This tube he afterwards removed into his muſeum, and fixed it ſo artificially into a figure that the ſtatue, as if it had been animated, opened its mouth, moved its eyes, and ſeemed to ſpeak; from whence he ſuppoſed the Pagan prieſts, by employing ſuch tubes, uſed to make the ſuperſtitious people believe the idol returned the anſwer to their queſtions.

The ſame, by Mr. Geo. Stevenſon, of Howdon-Dock.

Human nature has ever been fond to pry into futurity; whence the Pagan prieſts, for their own intereſt and power, took advantage of this propenſity to eſtabliſh oracles, and by cunning and deceit to impoſe upon thoſe that inquired at them. It is ſaid that Lycurgus made frequent viſits to the Delphian oracle, that the people might entertain a belief that he received from Apollo the plan he afterwards communicated to the Spartans. Theſe pious frauds were effectual means of eſtabliſhing the authority of laws, and engaging the people to a compliance with the will of the lawgiver. One of the moſt ancient oracles was that of Jupiter at Dodona, where was the firſt temple ever ſeen in Greece. According to Herodotus, both this and that of Jupiter Hammon had the ſame origin, and both owed their inſtitution to the Egyptians. Their riſe is wrapped up in fables; for two black pigeons, ſay they, flying from Thebes in Egypt, one ſettled in Lybia, and the other flew as far as the foreſt of Dodona. But the truth appears to be, that two prieſteſſes of Thebes were carried off by ſome Phenician merchants, and that one was carried into Greece, the other to Lybia. At Dodona it was pretended that the will of Heaven was explained by the prieſteſs, from the murmurs of a brook that flowed from the foot of an oak; and after this from the ringing of brazen kettles ſuſpended in the air, and alſo by a voice out of the oak; whence it is eaſy to conceive the deceit, as the firſt two depended on the invention of the prieſteſſes in contriving anſwers, and the laſt by concealing herſelf in the hollow of the oak, and delivering

the anſwer from thence. The oracle of Jupiter Hammon returned anſwers by ſigns. The oracle of Apollo was one of the moſt famous of all antiquity; the prieſteſſes pretended that they were inſpired by an exhalation out of the earth. Beſides theſe, it is ſaid, there were above 300 more, moſt of which were in Greece. The general characteriſtics of oracles were ambiguity, obſcurity, and convertibility; ſo that one anſwer would agree with ſeveral different and even oppoſite events; and this was generally the caſe when the event was in the leaſt dubious. In this conſiſted all their art and all their knowledge; for when the queſtion was plain, the anſwer was commonly ſo too.

Query 3. *Anſwered by Mr. Robert Barwick, ſen. of Ringſtead, Norfolk.*

It is plain that rheumatic joints, &c. are defective, and weaker than the other parts of the human body; and the air, being changed by the forerunner of worſe weather, works upon thoſe defective and weaker parts, while the other feel little or nothing of ſo ſmall a change.

The ſame, by Mr. John Elliott, of Malton.

The air in the blood veſſels of an animal body balances the ſpring of air without, which equilibrium is deſtroyed by foul weather; therefore, people who are ſubject to the rheumatiſm, ſciatica, &c. are ſenſibly affected with the change of the weather, and continue in pain till the equilibrium is reſtored.

The ſame, by Mr. Jonathan Hornby, of Weſterdale School.

The atmoſphere affects the human frame by its weight, its moiſture, its dryneſs, its heat and its cold. There are two forces that act upon the animal frame, and they are both equally neceſſary to the keeping up of vital heat and vital motion: the one force is that of the atmoſphere preſſing without upon the ſurface of the body; the other is that of the air expanding it within; and theſe two ought to be a counterbalance to each other. Hence, againſt change of weather, ſtorms, the equilibrium will be deſtroyed, and people who are ſubject to the rheumatiſm, &c. will be ſenſible of the change of the weather, and continue in pain till the equilibrium is reſtored.

The ſame, by Mr. Henry Mellanby, of Stockton.

The fibres leading to corns, calluſes, &c. act like ſo many hygrometers, and conſequently are affected againſt a change of weather, and cauſe the pain.

Query 4. *Anſwered by Mr. John Burrow, of Boltonfield.*

There was lately a bed at my houſe, in which a good many

pigeons feathers had been put, as I have heard my mother ſay. On this bed died ſeveral of my friends very compoſedly; ſo that I believe the report is utterly falſe.

The ſame, by Mr. Joſ. Cowing, of Newcaſtle.

This notion concerning pigeons feathers prolonging life is founded on Popiſh ignorance and ſuperſtition. What probably gave riſe to this fancy, was its being the only bird uſed in ſacrifices under the Moſaic law; and the divine Shechinah appearing in this form at the baptiſm of Chriſt, they concluded that it was a ſacred emblem of immortality: thence the uſe of its feathers was prohibited in all civil concerns. As for the notion that weak people entertain concerning the torment endured by dying perſons on a bed made either in part or wholly of pigeons feathers, it may be accounted for, perhaps, from the hardneſs of ſuch beds. But indeed it ſometimes happens, that a perſon cannot die upon a bed of any kind whatever.

The ſame, by Mr. Henry Mellanby, of Stockton.

Perhaps this may be thought not without foundation, when it is conſidered that pigeons have no bile, the uſe of which is to ſheath or blunt the acids of the chyle: and beſides, their feathers muſt make an uneaſy bed, on account of their being plucked while the pigeons are very young, and of courſe they muſt contain much blood, which, when dry, makes them hard and prickly.

The ſame, by Mr. A——s——.

Pigeons feathers are I believe of very little worth, being ſhort and hard, which is the only reaſon for their not being bought for the purpoſe of putting into beds; but it is a mere ſuperſtitious notion to think that perſons will not die on ſuch beds, or not ſo eaſily, except in this caſe, that the hard ends of the feathers coming through the bolſter ſhould give trouble to the ſick perſon.

Query 5. *Anſwered by Mr. John Burrow, of Boltonfield, near Appleby.*

The oldeſt people in our neighbourhood ſay, it has been a common report ever ſince they can remember, that the Yorkſhire people were bites or ſharpers in dealing: and it needs little proving in our days now, as I believe all England has found to their coſt, in clipping, ſweating, and counterfeiting the coin of all ſorts; and I believe there are more rogues in Yorkſhire than in all England beſides. However, it is likely that the report may much exceed the truth, for I don't doubt but there are many honeſt people in Yorkſhire, and the others not ſo bad as repreſented; for not long ſince, a tradeſman want-

ing to go into Yorkſhire to buy goods, was told by his neighbours the Yorkſhire people would ruin him if he went among them: he ſaid however he would go, for he thought they were not ſo bad as they were repreſented. But he ſoon repented of his raſhneſs; for he had ſcarce entered the county, when riding on a rough road his horſe ſtumbled, and the rider tumbled over his head. The horſe being frighted ran away, and the maſter got up as ſoon as his hurt would permit him, and went to ſeek his horſe, but had not gone far before he found a dead horſe by the road ſide, which had lately been ſkinned; and not doubting but it was his own horſe, he exclaimed, D——n theſe Yorkſhire bites, they have ſtole the ſkin of my horſe—ſaddle and bridle—ſhoes and all; d——n them, but they have been very quick; and ſo returned home, curſing the Yorkſhire bites, and ſaid there was no living among them.

The ſame, by Mr Rd. Cockrel, at Mr Phillips's Academy, Deptford.

Yorkſhiremen are famed for carrying on an extenſive commerce in horſes; and it ſeems probable that the obſervation in queſtion took its riſe from it. They are keen and ſubtle in their dealings, becauſe the diſeaſes incident to theſe animals are numerous, and ſome of a dark and myſterious nature, which require great judgment and deep penetration to diſcover them on the one hand, and much ſkill and art to conceal them on the other. And they are more ſo than the people of other counties; 1ſt, becauſe the above qualifications are ſo frequently called to action in their dealings with men of all parts of the kingdom; and 2dly, the conſtant traffic carried on among themſelves at fairs, &c. For theſe reaſons it is that no county can vie with them in that ſubtleneſs and keenneſs ſo obſervable in all their dealings.

The ſame, by Mr John Elliott, of Malton.

I have read ſomewhere of an Engliſh monarch ſending for one thouſand *oars*, or *rowers*, to one of the kings of Spain, who, not underſtanding the interpretation, or true meaning of the words, and being unwilling to diſoblige his Britannic brother, ſent him one thouſand whores, and as many rogues; whom the Engliſh king being unwilling to ſend back, for fear of diſobliging the Spaniſh king, ſent them to Yorkſhire to people that county.

The ſame, by Mr J. Jackſon, of Hutton-Rudby School.

Yorkſhire is much the largeſt county in England, and on account of its numerous manufactories by much the moſt populous; and as ſuch, its natives muſt in courſe be oftener noticed in their dealings than men of other counties, eſpe-

cially as the produce of their county, as well as of a great part of their manufactories, is vended in markets and fairs, which cauſes them to look ſharp out, for fear of being impoſed on by others, as well as others may apprehend the danger of being impoſed upon by them.

The ſame, by Mr Henry Mellanby.

The ancient phraſe of "A Yorkſhire bite," has perhaps led people to imagine that Yorkſhiremen are more ſubtile in their dealings than other men. But if that be the ſource from whence they derive the notion, Yorkſhiremen are greatly wronged; for the phraſe aroſe from that which is a credit to them, viz the hoſpitality they ſhewed to travellers; ſo that when thoſe who were coming into Yorkſhire, ſuppoſe from the northward, and having arrived (let us admit) at Stockton, a town bordering upon that part of Yorkſhire, called Cleveland; and though it would have very well ſuited to halt here for refreſhment, yet the thoughts of faring better when they ſhould get into Yorkſhire, tempted them to perſevere in their journey, with "Come, let us hold on a little farther, and then we ſhall get a *Yorkſhire bite*;" meaning a *bite*, or bit of bread and cheeſe, which was conſtantly given to any traveller who called at an inn for a pint of ale, &c.

Query 6. *Anſwered by Mr Tho. Croſbey, of Peaſhaulm-Green, York.*

It is very well known to thoſe who make remarks on the changes of the atmoſphere, that frequent ſmall rains keep the air moiſt, while heavy ones render it more dry and clear, by beating down the vapours; and thoſe dingy, ſmoky appearances in the ſky in very dry ſultry ſeaſons ariſe from the want of moiſture ſufficient to let through and render the atmoſphere more clear and tranſparent, which ſeems to be the reaſon why thoſe ſmall clouds or vapours, which we ſo often ſee in ſultry ſummer mornings, riſing up higher in the atmoſphere by their levity, ſo ſoon eſcape our ſight.

The ſame, by Mr Adam Glendenning, of Morpeth.

Clouds, vapours, ſmoke, &c. expanded by heat, &c. aſcend upwards, till they arrive at that height where the air is of the ſame weight or denſity with them; where they mix with it and diſappear till the evening, when the ſun's heat ceaſes, and they return again to the earth in drops of dew, &c.

NEW ENIGMAS.

I. Enigma, *By Mr Geo. Cowen.*

Fly round the globe, ye artiſts, and proclaim;—
Let ſcience bow, and hail my dear-lov'd name;

Smile ruſtics too beneath my balmy wings;
Let commerce laugh, the boaſt and pride of kings;
Lo! now I live in Albion's iſle careſs'd,
Her ſons enjoy me now, and now are bleſs'd.
In my auſpices blooming nature ſmiles,
And madneſs ſinks beneath her artful wiles.
Ambition too wou'd oft my ruin prove,
Diſturb my cares, and baniſh all my love:
Her ſiſter pride, in gaudy plumes array'd,
Wou'd deign to ſend me to that dreary ſhade,
Where terrors' king his myriads oft has laid.
In Newgate's cells with pitying eyes ſurvey
The ſad diſtreſs in which my murd'rers lay;
Deſpair and languor on each brow appears,
And ev'ry face a horrid aſpect wears.
Ye ſons of riot ceaſe your vicious ways,
Let not ſtern juſtice crop your blooming days;
Know mortals this, and learn to praiſe my name,
To raiſe its ſplendor, and ſupport its fame;
For all your efforts ſhall like nothing prove
To diſpoſſeſs me of my realms above;
Yea, I ſhall live, when this terreſtrial ball
By time's ſtrong hand ſhall into ruins fall.

II. Enigma, *By Mr James Daviſon, of Newcaſtle upon Tyne.*

As when at midnight ſhapeleſs ſpectres riſe,
Of horrid aſpect, and ſtupendous ſize,
Before th' aſtoniſh'd view, confounding fear
Arreſts the heart; ſo too when I appear,
Formleſs and vaſt, and from dull matter free,
In awful ſtate and ſolemn majeſty,
The feather'd quires forego their tuneful notes,
And ſwell no more to melody their throats;
The beaſts domeſtic haſten to the ſhed,
And lo! the globe itſelf is ſtruck with dread.

Pale griſly Death, impartial tho' we call,
And ſtricken by his blow, that reaches all,
The potent monarch, as his ſlave, muſt die—
Merits that name not half ſo well as I:
For once, as ſacred records us aſſure,
Two perſons were exempted from his power;
But never was ſuch difference made by me,
Who deal, moſt rigidly, equality.

Rich, precious gems, and ſparkling ores, that lie
Far from the piercing ſun's illuſtrious eye,
Deep in the inmoſt bowels of the earth,
To me their beauteous luſtre owe, and birth.

When wild confuſion held her dreary reign,
I, brooding o'er the deſolate domain,
Saw the wide waſte, triumphant; but, alas!
When the ethereal orbs were form'd, I was
From my moſt ancient, ſpacious realms expell'd,
And have e'er ſince divided empire held.
But when the glorious monarch of the day
No more around ſhall pour his dazzling ray;
And when no more from Cynthia's borrow'd beams
A ſilver flood of milder luſtre ſtreams;
When yon bright ſtars, coeval with the ſun,
Shall have their long-continu'd courſes run,
And dropping from their ſpheres obſcurely die,
Extinguiſh'd all the glories of the ſky;
Then ſhall again be rais'd my parted throne,
And undivided ſway for ever be my own.

III. ENIGMA, *By Mr Wm. Evans.*

Behold, bright maids, a theme divinely rare!
Sweet as yourſelves, as amiably fair;
A theme which all attention muſt engage,
Unſung as yet in Dia's myſtic page;
And ſay, ye fair, who deal in myſtic ſong,
Ah! why have I eſcap'd a lay ſo long,
Since to my gentle influence you owe
The choiceſt ſweets that mortals can beſtow?
I glad the mind, I brighten fortune's ſmile,
And cankering care, and deep diſtreſs beguile;
At my approach all dire contention flies,
And envy ſickens at my ſight, and dies;
In jocund youth my ſmiling beauty warms,
And age but ſtrengthens and improves my charms.
I have a ſiſter, in whoſe ſofter face
A kindred likeneſs of my features trace;
Nor is it ſtrange we ſhould ſo much agree,
Since ſhe full oft derives her birth from me.
Vice is my foe, for her deſtructive pow'r
The pureſt heav'n-born bleſſing does devour;
Yet the vain vot'ries of the haggard dame
Wave my bright banner, and aſſume my name!
The fawning, ſelfiſh, avaricious crew
Make me ſubſervient to their point in view:
The toping tribe at Bacchanalian feaſts
Extol my worth, yet never know my ſweets;
Nay, all who folly or who fraud purſues,
For this or that my ſacred name abuſe.
With ſuch, awhile my op'ning beauties blaze,
While ſeas are ſmooth, and all are halcyon days;

But ſhould miſchance or caprice change the ſcene,
Behold anon how alter'd is my mien,
My warmths extinguiſh, and my beauty dies,
And fiends and monſters from my aſhes riſe.

IV. ENIGMA, *By Mr Iſaac Gumley, of Anſty, near Leiceſter.*

When ſpring has enliven'd the winter-brown'd plains,
And herbage and flow'rs give a joy to the ſwains,
Then into exiſtence behold me ariſe,
A ſtructure, admir'd by the grave and the wiſe.
Ere I am complete for my owner's abode,
Many journeys are made, and much labour beſtow'd;
From the eaſt, from the weſt, from the ſouth, from the north,
Materials to make me in plenty come forth.
So neatly I'm made, and all things ſo well fitted,
I might to the eye of a Jones be ſummitted:
Yet tho' with ſuch neatneſs I'm commonly grac'd,
That all muſt allow I'm a building of taſte,
In towns and fine cities I ſeek not a ſeat,
But always prefer a ſnug ſhady retreat;
For thieves, who too often in miſchief take pleaſure,
Demoliſh my fabric, and pilfer my treaſure;
O wretches forbear, for I never hurt you,
Give up this employ, and a better purſue.
I'm high, I am low, I am large, I am ſmall,
And juſtly may ſay I am known to you all;
My inhabitants too you have frequently ſeen,
In the woods, on the mountains, or tripping the green.
But enough of myſelf and owner is told,
You've found me ere this, or your fancy is cold.

V. ENIGMA, *By Mrs Hallilay.*

When death with all his grimly ghoſts appear,
And requiems can't retard the widow's tear,
My birth is nigh—renown'd to fame I ſtand,
Exalted by the artiſt's ſkilful hand:
A quadrangle, emblaz'd with ev'ry hue,
Of black and white, of yellow, red and blue.
Though frequently the birds and beaſts of prey
Like pillars ſtand, my grandeur to diſplay;
Though Latin eloquence I much admire,
And even help to raiſe poetic fire,
A mournful herald near your door I keep,
Or in the ſacred edifice I ſleep;
But here my brother does eclipſe my praiſe,
And ſouls immortal from oblivion raiſe,

For Wolfe and Chatham in the peaceful ſhade,
With all their pomp invoke the ſculpture's aid.
In arms I ſerve the great—'tis not my lot
To wear new laurels in the peaſant's cot.
But ſhould this pride awake the critic's rage,
Whoſe trump is ſounded in the myſtic page,
Forgive my caprice, and until next year
Your ſilent monitor will not appear.

VI. ENIGMA, *By Mr Henry Lee.*

Hark!—'tis Olivia ſtrikes the ſounding ſtrings;
Each boiſt'rous breeze be ſilent while ſhe ſings;
Let no rude footſtep wound the trembling air,
But reſt on me, and charm'd, approach the fair.
Tho' muſic's friend, alike its foe I prove,
But ever friendly to the rights of love!
O, could I tell the kindling charms I've ſeen,
The am'rous parley of two loves between,
Soft tales of paſſion breath'd where I have been;—
Might I but ſpeak (and but to ſpeak the truth)
Old age would burniſh into blooming youth!
"To arms! to arms!"—the fierce Thalaſtris cries,
And ſhouts of combat rend the vaulted ſkies;
Sounds ſuch as erſt in Richmond's valley rung,
Sounds that ſtill ring in Pope's immortal ſong!
O, fatal ſlip,---foil'd by the force of charms,
I catch the maid claſp'd in Sir Fopling's arms!
See proud Altea, deaf to Strephon's pray'rs,
Laugh at his vows, and ridicule his tears;
Whilſt at the fair one's feet the lover kneels,
I pangs prevent, or ſoften what he feels!
Alike a bleſſing to the vain I'm given,
And he who treads the "thorny way to heav'n;"
Th' enthuſiaſt wild, who journeys on in ſtrife,
I ſoothe his ſteps, and eaſe the load of life.
Let due reform perplex the haraſs'd ſtate,
Or arts, or arms, engage the long debate,
The matter broach'd---(ſo metaphiſts agree)
The tongue of cuſtom ſays, 'tis brought on me.
How chang'd the ſcene! where ſtood pourtray'd the ſwain,
The ſandal'd chief, or Amazonian dame,
See ſimply dreſs'd, great Albion's genius ſmile,
The pride of arts, and manufact'ring toil.

VII. ENIGMA, *By Mr G. Lodge, of Linton.*

Within Diaria's liſt I crave a place,
Who no wild upſtart am of modern race;
No ſenſeleſs fop, or vain pedantic elf,
Who all things knows, yet does not know himſelf;

No wanton rake, whoſe fame ſuch feats can boaſt,
As drunken riots, or ſome injur'd toaſt:
Unlike to theſe, for near three thouſand years,
Recorded with good deeds my name appears;
Well known in Egypt, and in ancient Greece,
Brought there by Jaſon with the golden fleece;
Nay farther back can go, 'tis known I've been
By Adam oft in Eden's garden ſeen.
Yet huſh, be ſilent pride, 'tis vain to trace
Exalted worth among the ancient race;
Degenerate ſons to honour have no claim;
But their foul deeds diſgrace their father's name:
'Tis thus with me, for in theſe latter times
With horrid guilt I'm ſeen in groſſeſt crimes;
The gameſter and the glutton I attend,
Combin'd with prodigals their gold to ſpend;
With rogues I am in conſtant compact bound,
Therefore with them, in ev'ry kingdom found;
Perhaps you now will ſay, a wretch ſo baſe
Shou'd not within the Diary have a place;
Yet hold, be not ſo raſh, ſince you, ye fair,
Have need of me, to make each grace appear;
When at your fav'rite glaſs, nay farther too,
When morning light appears I'm in your view,
Nor ſeldom abſent in the midſt of night,
Since then you have me in your piercing ſight:
To lawful marr'age I'm a needful friend,
And at each wedding conſtantly attend:
Enough is ſaid, but this will make me known,
My aid to beggars more than kings is ſhewn.

VIII. Enigma, *By Mr Tho. Truſwell, of Nuneaton.*

Avaſt, my dear ladies, make room once again,
Admit me to tread the Diarian plain:
Where, like the amazing Pantheon of old,
Your nitches are fill'd with bright ſtatues of gold.—
Permit me to ſing of a hero of fame,
Whoſe valour has gain'd him ſo laſting a name;
But firſt pray beware of his blood-thirſty actions,
Nor with him e'er make any haſty contractions:
If he aſks for an inch, and you give him conſent,
It is ſcarcely an ell that will make him content;
His two-folded weapon, wide ſpread on the plain,
Has ſever'd a thouſand poor creatures in twain;
But yet on the day that we wait for our ſentence,
We hope of his ſins he will make true repentance;
If ſo he may then live in hopes of forgiveneſs,
And be heartily glad that he's finiſh'd his buſineſs.

With upright deportment can ſtep to a hair,
He appears a-la-mode at a wake or a fair;
His buſineſs, dear ladies, oft leads him on high,
Where he ſings like a lark when approaching the ſky;
Tho' uſeful he is, you'll allow it moſt certain,
Beware, or he'll leave not a fold in your curtain.
One hint, deareſt ladies, I ſhudder to tell,
He is oft to be found on the confines of h—ll;
Another, but ladies you'll think it uncommon,
To tell you the truth, he's a man and yet no man.

New REBUSES, CHARADES, QUERIES, *&c.*

I. REBUS, *By Mr John Singleton, of Aſhton Free-ſchool, near Wigan.*

What a perſon that's bald much admires for its aid,
And two-fifths of a being divine,
Will ſhew the abode of a charming fair maid,
Who has promis'd ere long to be mine.

II. REBUS, *By Mr Wm. Swift, of Stow.*

Five triangles ſet down fair,
Exhibit a matter very clear,
By inſects made; pray what can it be
That's puzzled my father, my uncle, and me?

III. REBUS, *By Lavinius.*

Daughters of Billingſgate declare to fame,
What oft you ſtamp a ſorry ſiſter's name;
And you, ye ſable brethren of the law,
What, like the clergy's, fills your frown with awe:
Three-fifths of *that* to *this*, with care unite,
Will, gents believe me, uſher into light,
What you, vain lordlings all, can ne'er poſſeſs,
Tho' riches, health exert their power to bleſs;
Tho' crown'd with all the proſtrate world adore,
The hero's trophy, or the monarch's power:
But you, ye fair! in whom ſuch ſweetneſs reigns,
This wonder name—and take it for your pains.

IV. REBUS, *or Paradox, By Mr Henry Lee.*

As on her pad Louiſa took the air,
I and my brother went t' attend the fair;
My brother, he, (but to be ſure he's blind)
Prov'd to the damſel I was *left* behind:
She ſtraight look'd back, and ſaw as clear as day,
I ſtill was there, and ne'er had been away!

Now, curious wits, explain this bickering ſpite,
For fair Louiſa thought my brother *right*.

I. CHARADE, *By Aminicus.*

Unto my favour'd firſt great God has giv'n
Dominion over all beneath high heaven:
My next, a male of cloven-footed fowl,
For daily food doth ſtagnant waters prowl:
My whole was found, as ſcripture hath reveal'd,
By Leah's firſt-born in the harveſt field.

II. CHARADE, *By Mr John Jackſon, jun. of Cawood Hagg, Yorkſhire.*

What heart-felt joy by thee my firſt was given,
When all were in a deluge hurl'd by heaven:
Indulgent next, a ſhelter moſt complete,
'Gainſt winter rains, and ſummer's torrid heat:
My whole, bleſt ſeat of innocence and love,
A ſtriking emblem of the world above.

III. CHARADE, *By Mr S. Oxley, of Wolſingham, Durham.*

My firſt is tranſient as the tend'reſt flower,
Like ſpotleſs innocence, as fair and pure;
When orient ſol darts forth his fervent ray,
Behold my ſecond fall from yonder ſpray;
My whole is foremoſt of the gaudy train,
When winter's gone, and ſpring returns again.

IV. CHARADE, *By Mr G. R. of South-Audley-Street.*

My firſt was well known to a merry old knight,
Who ſmil'd when my face he did ſee;
Were my ſecond but fill'd, how vaſt the delight!
Sure no mortal ſo happy as he.
How chang'd are the times, ſince my whole was the taſte,
When my muſical notes ſwell'd the grove!
The empire's extinct, and the country laid waſte,
Whoſe virgins I have ſoften'd to love.

I. QUERY, *By B. C.*

From whence ariſes the luſtre of globules of rain that lie on the leaves of colewort?

II. QUERY, *By Mr Henry Mellanby, of Stockton.*

A crack in a bell, or in any other ſonorous veſſel, deſtroys its ſound, whilſt a hole, apparently worſe, cauſes no ſuch effect. Pray how is this to be accounted for; and what is the moſt effectual method of recovering the ſound of a bell ſo damaged?

III. QUERY, *By Mr. J. Hunt, of Stony Stratford.*

What reaſon can be aſſigned, that if a bucket of cold water be ſhut in a room juſt painted, it will deprive the paint of its diſagreeable ſcent, and alſo of its gl ſs?

IV. QUERY, *By Mr John Liddell, of Habton.*

Philoſophers ſay, that the ſpecific gravity of clouds, vapours, &c. that float in the atmoſphere, is equal to that of the atmoſphere where they are ſeen floating. If this be ſo, what is the reaſon that ſometimes ſmoke riſes up a chimney, and then falls to the ground again?

ANSWERS *to the* MATHEMATICAL QUESTIONS, *propoſed in the laſt Supplement.*

I. QUESTION, *Anſwered by Mr Wm. Cook, at Mr Stevenſon's School, Howdon-Dock.*

Call t the time required; $r = 1.05$, the amount of 1 pound for one year; and $a =$ 1 penny $= \frac{1}{240}l$. Then ar^t is the amount of 1 penny for t years. Hence, by the queſtion $ar^t = 240000000$, and $1.05^t = 57600000000$; then, taking the logarithms, $t \times$ log. $1.05 =$ log. 57600000000, and $t = \frac{\text{log. } 57600000000}{\text{log. } 1.05} = 507.80655$ years, the time ſought.

The ſame, by Mr John Dalton, of South Cave.

Put $d = 240000000l.$ the whole debt; $r = 1.05l.$ and t the time ſought: then, ſince a penny is the 240th part of a pound, by the nature of compound intereſt it is $\frac{r^t}{240} = d$, or $r^t = 240d$; therefore $\frac{\text{log. } 240d}{\text{log. } r.} = \frac{10.7604225}{0.0211893} = 507.823$ years, or 507 years and 300 days.

The ſame, by Mr Olinthus Gregory, of Yaxley, Hunts.

Put $240000000 = a$; $1d = .004166$ &c. $= p$; $1.05 = r$, and the time $= t$. Then, by comp. intr. $\frac{a}{p} = r^t$; and the ſame in logarithms is $\frac{\text{log. } a - \text{log. } p.}{\text{log. } r.} = t$.

logs.

Therefore, $a = 240000000$ - - - 8.380211

$p = .004166$ &c. - - - - - 3.619789

$r = 1.05$, its log. $.021189$) 10.760422 (507.830

years, the time.

Nearly in the ſame manner is the ſolution given by Meſſieurs James Adams, James Aſhton, Wm. Bearcroft, B. Benſon, Wm. Boyer, John Branſby, A. Buchanan, jun. Tho. Bulmer, Wm. Burdon, Ra. Burton, Wm. Carſs, jun. John Gavill, Miſs Betty Claxton, Rd. Cockrel, John Craggs, Tho. Codling, Tho. Croſby, John Elliott, Adam Glendenning, J. Hartley, John Haycock, Jonathan Hornby, Da. Kinnebrook, jun. Geo. Langburn, Wm. Laws, Tho. Lewis, Tho. Leybourn, John Liddell, Mancunienſis, Tho. Milner, Wm. Potter, T. Rae, Alex. Rowe, Ruricola, Andr. Simpſon, Time. Simpſon, Henry Tickner, W. Virgo, Mrs. Jane Weſt, Tho. Whiting, & Rob. Wilkinſon.

II. QUESTION, *Anſwered by Mr James Adame, of Stonehouſe, near Plymouth.*

The content of the rectangle being 20 *ac.* 2 *rs.* 8 *p.* or 20.55 acres, or 205.5 ſquare chains, and the ſhorter ſide 12 chains, by diviſion the longer ſide will be 17.125, or $17\frac{1}{8}$ chains. Alſo the proportion of the ſhares being $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, or as 20, 15, 12, the ſum of which is 47; hence by proportion, as

$$47 : 20.55 :: \begin{cases} 20 : 8.74468 = \text{Betſey's ſhare,} \\ 15 : 6.55851 = \text{Beatrice's ſhare,} \\ 12 : 5.24688 = \text{Barbara's ſhare.} \end{cases}$$

And if each of theſe ſhares, which are acres, be multiplied by 10 to bring them to ſquare chains, and then divided by 12 the common breadth, the quotients will be the ſeveral lengths, viz. 7.287234, and 5.465425, and 4.37234 chains.

The ſame, by Mr James Aſhton, of Harrington School, near Liverpool.

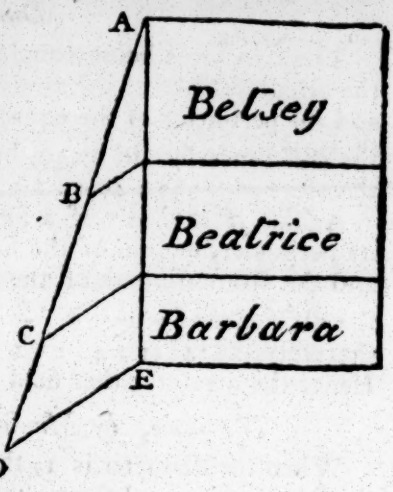
Firſt 20 *ac.* 2 *rs.* 8 *p.* = 3288 ſquare perches, and 12 chains = 48 perches: then $3288 \div 48 = 68\frac{1}{2}$ perches = the length. Now $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} = \frac{20}{60} + \frac{15}{60} + \frac{12}{60} = \frac{47}{60}$; then by Single Fellowſhip,

$$47 : 3288 :: \begin{cases} 20 : 1399\frac{7}{47} \text{ ſq. perches} = \text{Betſey's ſhare,} \\ 15 : 1049\frac{17}{47} \text{ - - - } = \text{Beatrice's ſhare,} \\ 12 : 839\frac{23}{47} \text{ - - - } = \text{Barbara's ſhare.} \end{cases}$$

Then each ſhare divided by 48, the common breadth, gives $29\frac{14}{94}$, and $21\frac{81}{94}$, and $17\frac{46}{94}$ for the diſtances to be ſet off.

The ſame, by Mr Wm. Carſs, jun. of Newcaſtle upon Tyne.

The content of the field is 205.5 ſq. chains, which being divided by 17, the ſhorter ſide, will make the longer ſide 17.125 chains. Then a rectangle being laid down according to theſe dimenſions, and any line AD drawn, and divided in proportion to $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, or which is the ſame thing, making AB = 20, BC = 15, CD = 12; then joining DE, and drawing lines parallel to it through the points B and C, they will cut the length AE in the points required.



Otherwiſe, by Calculation.

As 47 : 17.125 : : 20 : 7.287 the firſt diſtance; then $7.287 \times \frac{15}{20} = 5.465$ the 2d diſtance, and $7.287 \times \frac{12}{20}$ or $\frac{6}{10} = 4.372$ the 3d diſtance. Then theſe diſtances multiplied by 12, give 8.744 and 6.558, and 5.246 acres, for the three ſhares.

The ſame, by Mr Ra. Simpſon, of Croxdale, Durham.

The ſhares are as $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, or as 20, 15, 12, whoſe ſum is 47 : then as

	ac.	ro.	p.		ac.	ro.	p.	
				20 :	8	2	$39\frac{7}{47}$	= Betſey's,
47 :	20	2	8 : :	15 :	6	2	$9\frac{15}{47}$	= Beatrice's,
				12 :	5	0	$39\frac{23}{47}$	= Barbara's.

Theſe reduced into chains, and divided by 12, give 7.287 and 5.465 and 4.372 for the diſtances to be ſet off.

And nearly according to one or other of theſe methods was the ſolution given by Meſſieurs A——s——, Rob. Barwick, D. Beal, Wm. Bearcroft, B. Benſon, John Birch, Wm. Boyer, John Branſby, A. Buchanan, jun. Tho. Bulmer, Wm. Burdon, Ra. Burton, John Cavill, Miſs Betty Claxton, Rd. Cockril, Tho. Codling, W. Cook, J. C. Cove, Joſ. Cox, John Craggs, Tho. Croſbey, John Dalton, Rob. Dowden, John Elliott, Wm. Farraday, Adam Glendenning, Olinthus Gregory, J. Hartley. John Haycock, Jona. Hornby, Wm. King, Da. Kennebrook, jun. Geo. Langburn, Lavinius, Wm. Laws, Tho. Lewis, Tho. Leybourn, John Liddell, John Lomax, Mancunienſis, Tho. Milner, Rd. Nicholſon, Geo. Penrice, Wm. Potter, Wm. Quaife, T. Rae, Geo. Roberts, Alex. Rowe, Ruricola, Andr. Simpſon, Henry Tickner, Ra. Thompſon, J. Whitcombe, Tho. Whiting, Rob. Wilkinſon.

III. QUESTION, *Anſwered by Mr Tho. Bulmer, of Thorp, Durham.*

The two areas being equal; firſt take the diameter 1; then the circumference of the circle is - - - - - - 3·1416,
and the perimeter of the equal ſquare is - - - - 3·5449,
the difference ſhould be 40, but is - - - - - ·4033;
therefore as ·4033 : 40 : : 1 : 99·18 the diameter of the circle.

Again, if the ſcale of a ſquare be - - - - - 1,
its perimeter, or ſum of the ſides will be - - - 4,
and the circumference of the equal circle - - - - 3·5449,
the difference of which is - - - - - - - - - ·4551;
therefore, as ·4551 : 40 : : 1 : 87·89, the ſide of the ſquare.
Hence the area of either field is 48 *ac.* 1 *ro.* 5 perches.

The ſame, by Mr Joſ. Cox, of Weſt-Wood.

When the diameter is 1, the circumference is 3·1416; and the ſide of the equal ſquare ·886228, conſequently the perimeter, or ſum of the four ſides, is 3·54491, and the difference is ·403308; therefore, as ·403308 : ·886228 : : 40 : 87·8958 poles, the ſide of the ſquare eſtate; the content therefore of which is 40 ac. 1 ro. 5 perches.

The ſame, by Mr John Haycock, of Ware, Herts.

Put a = ſide of the ſquare; then is x^2 the area of each incloſure; and, putting $p = \sqrt{3·1416} = 1·77245$, then $2px$ = the circumference of the circle, conſequently $4x - 2px = 40$, and $x = \frac{20}{2-p} = \frac{20}{·22755} = 87·89$ the ſide of the ſquare, the ſquare of which gives 7725·42 poles, or 48 *ac.* 1 *ro.* 5·42 *p.* for the area of each incloſure.

The ſame, by Maſter Billy Pearſon, of North Shields.

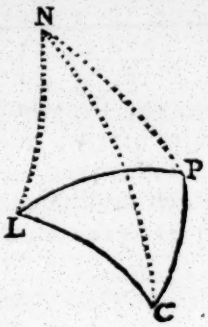
Put x = the diameter of the circle; then is $3·1416x$ = the circumference, and $·7854x^2$ = the area, both of the circle and ſquare; conſequently $\sqrt{7854x^2}$, or $·886228x$ is the ſide of the ſquare, and 4 times the ſame, or $3·544912x$ its perimeter: then, by the queſtion, $3·544912x - 40 = 3·1416x$; or $·403312x = 40$; hence $x = 99·1788$ poles; and the area of each incloſure is 48 *ac.* 1 *ro.* $5\frac{1}{2}$ *p.*

Ingenious ſolutions were alſo given by Meſſieurs A—s—, J. A. James Adams, James Aſhton, D. Beal. Wm. Bearcroft, Sam. Beaſtall, B. Benſon, J. Birch, Wm. Boyer, John Branſby, A. Buchanan, jun. Wm. Burdon, Ra. Burton, Wm. Carſs, jun. John Cavill, Miſs Betty Claxton, Rd. Cockrill, Tho. Codling, Wm. Cook, John Craggs, Tho. Croſbey, John Dalton, Rob. Dowden, Eliſha Dunton, John Elliott, Wm. Farraday, Adam Glendenning, Olinthus Gregory, J. Hartley, Jona. Hornby, Wm. King, Da. Kinnebrook,

jun. Geo. Langburn, Lavinius, Wm. Laws, Tho. Lewis, Tho. Leybourn, John Liddell, John Lomax, Mancunienſis, Tho. Milner, Geo. Penrice, C. Pritty, Wm. Quaife, T. Rae, Ruricola, Geo. Roberts, Alex. Rowe, Andr. Simpſon, Ra. Simpſon, Henry Tickner, J. Whitcomb, Tho. Whiting, and Rob. Wilkinſon.

IV. QUESTION, *Anſwered by Mr. A. Buchanan, jun.*

Let N repreſent the north pole, L London, C Conſtantinople and P Peterſburg.



In the triangle PNC there are given NP the colat. of Peterſburg = 30° 4′,

NC the colat. of Conſtantinople = 49°, and ∠PNC the diſt. of their meridians = 1° 26′; to find the ∠ NPC = 176° 40′ 4″, and ∠ NCP = 2° 12′ 40″.

Again, in the triangle NPL, are given

NL the colat. of London - - -	=	38°	29′,
NP the colat. of Peterſburg. - -	=	30	4,
and ∠ PNL the diſt. of their meridians	=	30	19;

to find the ∠ NPL = 103° 2′ 6″ and ∠ NLP = 51° 39′ 42″.

Alſo, in the triangle CNL there are given

NC the colat. of Conſtantinople - -	=	49°	0′,
NL the colat. of London - - -	=	38	29,
and ∠ CNL the diſt. of their meridians	=	28	53;

to find the ∠NCL = 52° 10′ 53″, and ∠NLC = 106 39 11″.

Hence then the

∠ CPL = NPC − NPL	=	73	37	58,
the ∠ PLC = NLC − NLP	=	54	59	29,
and ∠ PCL = NCP + NCL	=	54	23	33,
the ſum of which three angles is		183	1	00.

Now if the earth's diameter be 7964 miles, the ¼ of its ſurface, or the area of a great circle is 49814110·9915 ſquare miles, or 49814110·9915 × 64 = 3188103035 acres, nearly. Hence, by prob. 21, page 196, Dr. Hutton's Menſuration, 1ſt edit. or pa. 202, 2d edit, as 180° or 10800′ : 3° 1′, or 181′ : : 3188103035 : 534302465 acres nearly, the area of the triangle PCL, as required.

The ſame, by Mr W. Pearſon, of North-Shields.

Let N be the north pole, P, C and L, Peterſburg, Conſtantinople and London. Then in the triangle CNL given, CN = 49°, LN = 38° 29′, and the included ∠ CNL or dif. of long. = 28° 53′; from hence CL = 22° 21′ 54″.

Again, in the triangle PNL, given PN = 30° 4′, LN = 38 29′, and the included ∠ PNL or dif. of long. = 30° 19′; from hence PL = 18° 48′ 35″.

Alſo, in the triangle CNP, given CN = 49°, PN = 30° 4′, and the included ∠ CNP, or dif. of long. = 1° 26′; from hence, CA = 18° 57′ 15″.

Now, in the triangle PLC, the ſides are all known; from hence, the angles P, L, C, are found 73° 38′ 2″, and 54° 59′ 20″, and 54° 23′ 34″, reſpectively.

Then, by prob. 19, part 3, Hutton's Menſuration, 1ſt edit. Ex. 1ſt, the whole ſurface of the earth is 19894375o ſquare miles nearly; and by prob. 21, ibid. as 720° : 3°·01555 &c. : : 198943750 : 833228·924 ſquare miles in the triangle PLC, which multiplied by 640, the acres in a ſquare mile, gives 533266511, the acres required.

Ingenious anſwers to this queſtion were alſo given by Meſſieurs James Adams, James Aſhton, Wm. Bearcroft, John Branſby, Tho. Bulmer, Ra. Burton, Wm. Carſs, jun. Wm. Cook, John Craggs, Tho. Croſbey, John Elliott, Adam Glendenning, J. Hartley, John Haycock, Jona. Hornby, John Jackſon, Da. Kinnebrook jun. Geo. Langburn, Wm. Laws, Tho. Leyburn, John Liddell, Mancunienſis, T. Rae, Alex. Rowe, And. Simpſon, Ra. Thompſon, and Tho. Whiting.

V. Question, *Anſwered by Mr Thomas Codling, Pupil to Mr J. Jackſon, at Hutton-Rudby-School.*

The diameter of the nozzle, or cylinder, being $\frac{3}{8}$ of an inch = ·375, therefore its area = $·375^2 \times ·7854$ = ·110446, which is the area of the end or baſe of the cylinder, and its content is 2 gallons = 2 × 282 = 564 cubic inches; therefore divide the content by the area of the baſe, and the quotient is the length, or velocity per ſecond, which is 5106·5 inches, or 141 yards 2½ feet.

The ſame, by Mr Geo. Roberts, of Slaley.

It is plain that the air flies over a ſpace equal in length to a cylinder, whoſe content is 2 ale gallons, and the diameter of its baſe equal to that of the ſpout. Therefore, $\frac{3}{8} \times \frac{3}{8} \times ·7854$ = ·110446 is the area of the cylinder's baſe, the content being 2 × 282 = 564; therefore 564 ÷ ·110446 = 5106·5 inches = 425½ feet, per ſecond, is the velocity required.

The ſame, by Mr Wm. Bearcroft, of Kirby-moorſide.

Since the celerity with which a fluid iſſues from any artifice is equal to the velocity of a body which deſcribes a ſpace of the ſame length with that of a cylinder, whoſe baſe is equal to the orifice, and magnitude equal to the quantity of the fluid that runs out in the ſame time, we have only to find the length of a cylinder, whoſe diameter and content are given: therefore,

Put d = diam. = $\frac{3}{8}$ = ·375 in. c = content = 2 gal. = 564 cubic inches, and l = the length ſought.

Then $dd \times ·7854 \times l = 564$ cubic inches; and conſeq. $\frac{564}{dd \times ·7854} = l = 5106·52$ inc. or 425 f. 6·5 inc. the velocity required.

This queſtion was alſo ingeniouſly ſolved by Meſſieurs J. A. James Adams, James Aſhton, Sam. Beaſtall, J. Birch, John Branſby, A. Buchanan, jun. Tho. Bulmer, Ra. Burton, Wm. Carſs, jun. John Cavill Wm. Cook, John Craggs, Tho. Croſbey, John Dalton, John Elliott, Adam Glendenning, Olinthus Gregory, John Haycock, Jona. Hornby, Da. Kinnebrook, jun. Wm. Laws, Tho. Lewis, Tho. Leybourn, John Liddell, Mancunienſis, Rd. Nicholſon, Wm. Pearſon, Wm. Potter, C. Pritty, T. Rae, Alex. Rowe, Andr. Simpſon, Ra. Simpſon, J. Whitcombe, Tho. Whiting, and Rob. Wilkinſon.

VI. QUESTION, *Anſwered by Mr John Liddell, of Habton, near New-Malton, Yorkſhire.*

This queſtion is the ſame thing as having the conjunction of two planets, and the times of their revolution about the ſun given, to find when they will be in conjunction again, which is eaſily found by this theorem $\frac{ab}{a-b}$, where a = 720 the revolutions the ſeconds hand makes in 12 hours, and b = 1 what the hour hand makes in the ſame time; therefore, $\frac{ab}{a-b} = \frac{720}{719} = 1\frac{1}{719}$, that is 1 min. & $\frac{1}{719}$ is the time between each conjunction. And becauſe the hour hand is continually going, and makes 1 revolution in 12 hours, or 720 minutes, therefore there are 719 conjunctions every 12 hours.

The ſame, by Mr Ra. Burton, of Salton, Yorkſhire.

The hour-hand a watch makes its revolution in 720 minutes, for which put a; and the ſecond hand makes its revolution in 1 minute, for which put b; then, by a known theorem, the time of a conjunction is $\frac{ab}{a-b} = \frac{720}{719} = 1\frac{1}{719}$ min.: alſo $a \div \frac{ab}{a-b} = \frac{a-b}{b} = \frac{719}{1} = 719$ is the n° of conjunctions in the a or 720 revolutions.

The ſame, by Mr Tho. Leyburn, of North Shields.

The proportional motions of the hour and ſecond hands of a watch are as 1 to 720; therefore 720 − 1 = 719 is the dif-

ference or gain of the one over the other. Hence, then as 719 : 720 : : 1 : 1 $\frac{1}{719}$ min. the time after 12 when the hands next meet; alſo 1 $\frac{1}{719}$: 1 : : 720 : 719, the number of conjunctions they make in 12 hours.

Nearly in the ſame manner is the ſolution given by Meſſieurs James Adams, James Aſhton, Wm. Bearcroft, Sam. Beaſtall, John Branſby, A. Buchanan, jun. Tho. Bulmer, [illegible]m. Burdon, Wm. Carr, jun. John Cavill, Tho. Codling, Wm. Cook, Joſ. Cox, John Craggs, Tho. Creſſey, John Dalton, James Daviſon, R b. Dowden, Francis Eggington, John Elliott, Wm. Farraday, Adam Glendenning, Olinthus Gregory, J. Hartley, John Haycock, Jona. Hornby, N. Hoſkins, Da. Kinnebrook, jun. Wm. Laws, Tho. Lewis, Mancunienſis, Tho. Milner, Tho. Molineux Ed. Nicholſon, Wm. Pearſon, Wm. Potter, C. Pritty, Wm. Quaife, Da Robarts, Geo. Roberts, Alex. Rowe, Andr. Simpſon, Ja. Simpſon, Henry Tickner, W. Virgo, J. Whitcombe, Tho. Whiting, and Rob. Wilkinſon.

NEW QUESTIONS.

I. Question 13, *By Maſter Wm. Potter, of Newcaſtle Brewery.*

Suppoſe a ſquare back to contain 454 gallons, at 1 inch in depth; it is required to make a back in the form of a right-angled triangle, whoſe baſe ſhall be 555 inches, and its area equal to the former one; what muſt the perpendicular be?

II. Question 14, *By the Rev. Mr John Hellins.*

Two young ladies at a boarding-ſchool having received preſents from their friends, thus talked of their money: ſaid Lucy to Maria, if one of your crowns were added to mine, I ſhould have an equal number with you. Yes, Lucy, anſwered Maria, but if one of your crowns were added to mine, I ſhould then have twice as many as you. Query, the n° of crowns each had.

III. Question 15, *By Mr Rob. Dowden, of Woollavington.*

Mr. Hobbes has aſſerted in his Geometrical Roſes, (lib. 2, prop. 11) that the tangent of an arc of 30 degrees, together with the tangent of 22° 30′, make up the radius, or the ſide of that ſquare which circumſcribes the quadrant. Query, the truth or falſity of this propoſition.

IV. Question 16, *By Ruricola.*

In the month of November laſt, two country farmers, R and T, had in a large veſſel, in form of the fruſtum of a cone, a quantity of cyder, which had been made at their joint expence;

each having furniſhed an equal quota of prime apples for the purpoſe.

The veſſel which held it being full, they agreed to divide it between them as follows, viz. after dipping out about one fourth of the whole, to pour out what remained of R's ſhare, which ought to be preciſely one half, by inclining the veſſel till they could ſee the oppoſite or upper edge of the bottom.

Ruricola hearing of this curious buſineſs, got acceſs to the veſſel when empty, and carefully took its dimenſions, which he found to be, top diameter 38 inches, bottom diameter 31 $\frac{1}{4}$, and the perpendicular depth 40; what was the value of the difference of their ſhares thus divided, at the rate of 1*s*. 2*d*. the gallon?

V. QUESTION 17, *By Mr Ralph Burton, Land Surveyor, at Salton, Yorkſhire.*

A gentleman intends to make a garden and pleaſure ground, to contain 4 acres, 2 rods, 20 perches of land, ſtatute meaſure, the form to be a regular polygon of 13 ſides; he deſires to know the exact length of a ſide, as alſo the radius of a circle that will circumſcribe the polygon.

VI. QUESTION 18, *By Maſter James Dale, Pupil at Billingham School.*

A gentleman has a cooler whoſe length is 19 feet, breadth 15 feet, and depth 9 inches: he wiſhes the ingenious Diarians will inform him what diameter a hole in the bottom muſt be, ſo that the veſſel may empty itſelf in 15 minutes; ſuppoſing the mean velocity of the water in all parts of the hole, at any one time, to be ſuch as a heavy body acquires by falling through half the height of the fluid above it.

VII. QUESTION 19, *By Mr Thomas Croſbey, of Peaſehaulm Green, York.*

April 8, 1790, when York cathedral clock ſtruck 10, the length of a ſhadow of a two-foot rule was 34 inches on horizontal ground: whether was the clock too faſt or too ſlow, and how much, the latitude being 53° 59′?

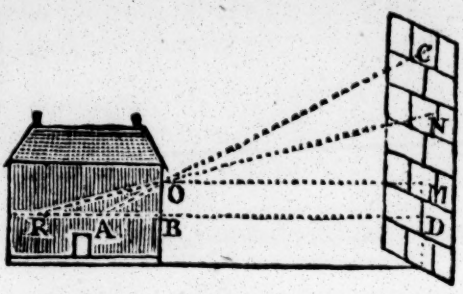
VIII. QUESTION 20, *By Mr Jonathan Hornby, of Weſterdale School.*

Suppoſe, when Lunardi aſcended with his balloon at York, he roſe perpendicularly till Kingſton upon Hull appeared in ſight, Query, How many ſquare acres of our iſland he might view, at that elevation, ſuppoſing the earth truly ſpherical, and its radius 3978$\frac{7}{8}$ miles; the latitude of York being 53° 59′, and its longitude 1° 6′ 40″ weſt; alſo the latitude of Hull 53° 50′, and its longitude 28 weſt?

Answers *to* Questions *in the laſt* Diary.

II. Question 909, *anſwered by Mr. George Penrice, Pupil in Mr. Tilney's School, at Harleſton, Norfolk.*

Having deſcribed the figure as per queſtion, in which BO repreſents the height of the window, draw MO parallel to BD; put $x = BO = DM$, then CM : MO : : BO : BA, and NM : MO : : BO : BR;



hence, $BR - BA = AR$, or $\frac{36x}{10\frac{1}{2} - x} - \frac{36x}{18 - x} = 15$, which reduced gives $x^2 - 46\frac{1}{2}x = -189$, the roots of which are 42 and $4\frac{1}{2}$, but the latter only will anſwer the queſtion.

III. Question 910, *anſwered by Mr. A. Buchanan, jun. of Sedgefield, Durham.*

Divide the given equation by 4, the co-efficient of the firſt term, and $x^4 + 2x^3 - 22\frac{1}{4}x^2 + 7x + 12\frac{1}{4} = 0$. Then $a = 2$, $b = -22\frac{1}{4}$, $c = 7$, and $d = 12\frac{1}{4}$; therefore, becauſe d is $= \frac{c^2}{a^2}$, $x^2 + \frac{1}{2}ax + \frac{c}{a} = \pm x\sqrt{\frac{2c}{a} + \frac{1}{4}a^2 - b}$, (See Simpſon's Alg. 5th edit. pa. 154), or $x^2 + x + \frac{7}{2} = \pm x\sqrt{7 + 23\frac{1}{4}} = \pm\sqrt{30\frac{1}{4}} = \pm\frac{11}{2}x$. Or $x^2 + \frac{2 \mp 11}{2}x = \frac{7}{2}$. Whence, by completing the ſq. &c. $x = \frac{\pm 11 - 2}{4} \pm \frac{\sqrt{69 \mp 44}}{4} = \frac{\pm 11 - 2 \pm \sqrt{69 \mp 44}}{4}$; that is, $x = \frac{9}{4} \pm \frac{5}{4}$, or $\pm\frac{\sqrt{113}}{4} - \frac{13}{4}$. Or $x = 1$, $\frac{7}{2}$, or $\frac{\pm\sqrt{113} - 13}{4}$, the roots of the equation as required.

IV. Question 911, *anſwered by Mr. Rob. Dowden, of Woollavington.*

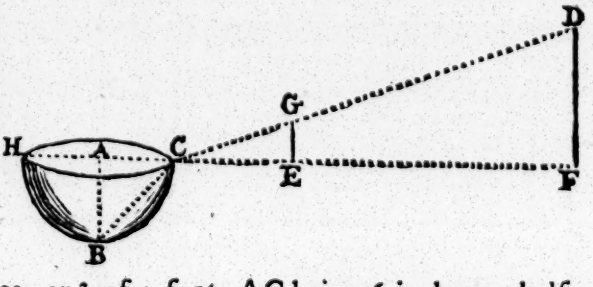
It is proved at Cor. 7, pa. 199, Dr. Hutton's Menſuration, 2d edit. that the ſurface of a ſpherical ſegment is equal to a circle whoſe radius is the chord of half the ſegment, that is the ſurface ABK (Fig. in the Diary) is equal to the circle whoſe radius is the chord AB, and the ſurface HFL equal to

the circle whoſe radius is the chord FH; but theſe two ſurfaces are equal by the queſtion, and therefore the chord AB muſt be equal to the chord FH. Now put a = DA = DB = 3982, b = GH = GI = 1096, $2d$ = DG = CG + CD, and $2x$ = CG − CD; then is CG = $d + x$, and CD = $d - x$. By ſimilar triangles, DC : DA :: DA : DE = $\frac{aa}{d-x}$; hence BE = $a - \frac{aa}{d-x}$, and $AB^2 = 2DB \times BE = 2a \times \overline{a - \frac{aa}{d-x}}$; in like manner $FH^2 = 2FG \times FI = 2b \times \overline{b - \frac{bb}{d+x}}$; but AB = FG, therefore, $2a \times \overline{a - \frac{aa}{d-x}} = 2b \times \overline{b - \frac{bb}{d+x}}$, which reduces to $x^2 + \frac{a^3+b^3}{a^2-b^2}x = d^2 - \frac{a^3-b^3}{a^2-b^2}d$, the root of which equation is x = 115693$\frac{1}{4}$ nearly; and hence BC = 324$\frac{3}{4}$ miles, the diſtance above the ſurface of the earth.

V. Queſtion 912, *anſwered by Mr. Jonathan Hornby, of Weſterdale School, near Whitby.*

After conſtructing the figure the ſame as in the Diary, then the angle of incidence being 45°, its ſine is $\frac{1}{2}\sqrt{2}$ to radius 1, and therefore 3 : 4 : : $\frac{1}{2}\sqrt{2}$: $\frac{2}{3}\sqrt{2}$ = ſine of ∠ F, its coſine $\frac{1}{3}$ = ſine of ∠ GAF; then $\frac{1}{3}$: $\frac{2}{3}\sqrt{2}$: : FG = 4 : $8\sqrt{2}$ = 11·313708$5$, the diſtance from the edge of the baſon; and as $\frac{1}{3}$: 1 : : FG : 3FG = 12 = AF, the diſtance of the eye from the ſame.

The ſame, anſwered by Mr. Geo. Stevenſon, of Howdon.



Let CBH be the veſſel; in AC produced take AC : CE : : 3 : 4, the ſine of incidence to the ſine of refraction, or make CE = 8 inches, or $\frac{2}{3}$ of a foot, AC being 6 inches or half a foot; apply CG = CB to the perpendicular EG, which produce till the perpendicular FD be 4 feet.

Then, CG = CB = $\sqrt{\frac{1}{2}}$, CE = $\frac{2}{3}$, therefore GE = $\frac{1}{3}\sqrt{\frac{1}{2}}$; hence, by ſim. triangles, GE : CE : : DF : CF, or $\frac{1}{3}\sqrt{\frac{1}{2}} : \frac{2}{3}$: : 4 : $8\sqrt{2}$ = 11·314 feet, the diſtance required.

VI. Question 913, *anſwered by Mr. Rd. Nicholſon, at Mr. Allinſon's Academy, Kirkdeighton, Yorkſhire.*

Now 8 min. of an hour anſwer to 2° of a great circle, the meaſure of time; and the ſun's declination on the given day is 23° 28′. Then ſay, as the product of the ſines of the declin. and time : radius^2 : : S. ſun's diam. 31′ 34″ : tan. of an angle. Again ſay, as S. ſun's diam. : S. of that angle : : S. of 2° time : ſec. 61° 29′ 30″, the lat. ſought.

The ſame, by Mr. Tho. Croſbey, of York.

Let a = ſine of time = 8 min. or 2°, b = ſin. of 31′ 34″ the ſun's diameter, d = ſin. of 23° 21′ the declination, radius = 1, and x = ſecant of lat. ſought. Then $\frac{1}{x}$ = coſine of lat. dx = ſine of the amplitude, and $\sqrt{1 - d^2 x^2}$ the coſine of the ſame. Therefore, $\sqrt{1 - d^2 x^2} : x : : b : a$; hence $bx = a\sqrt{1 - d^2 x^2}$, and $x = \sqrt{\frac{aa}{b^2 + a^2 d^2}} =$ ſec. of 61° 29′ $\frac{1}{2}$, the lat. required.

IX. Question 916, *anſwered by Mr. James Aſhton, of Harrington School, near Liverpool.*

Let a = AC, b = EC = FH, c = BG, alſo x and y = ſine and coſ. ∠ ACB, (fig. in the Diary) : then $y : b : : 1 : \frac{b}{y}$ = Hb, and $1 : a : : x : ax$ = AB; alſo $1 : a : : y : ay$ = BC; then $ay - c$ = GC; alſo ay or BC : ax or AB : : $ay - c$ or GC : $\frac{axy - cx}{y}$ = GH; then Hb + Gb = $\frac{b + axy - cx}{y}$, or $\frac{b - cx}{y} + ax$ = GH a max. this in flux. and ſubſtituting $\sqrt{1 - x^2}$ for y, reduces to $a \times \overline{1 - x^2}^{\frac{3}{2}} = c - bx$.

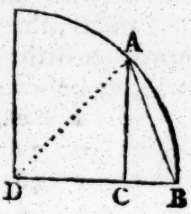
Example. Suppoſe the river be 10 yards broad, the length of the barge 12, and its breadth 4 yards; then a = 12, b = 4, and c = 10; hence $12 \times \overline{1 - x^2}^{\frac{3}{2}} = 10 - 4x$, and here x = ·4810187, the ſine of 28° 48′ $\frac{2}{3}$, and the breadth GH of the new cut is 4·848, very nearly.

SCHOL. It may perhaps be worth obſerving, that the rectangle of the length and breadth of the barge, divided by the breadth of the river, will ſometimes nearly anſwer the purpoſe; as in the preſent caſe $\frac{12 \times 4}{10} = 4.8$.

XII. QUESTION 919, *anſwered by Amicus.*

It is well known, that the given equation pertains to a parabola, whoſe ſemiordinate is $x + 2$ abſciſſa $y + 5$, and parameter unity: nor is there any difficulty in finding the area of the ſegment bounded by x and y, but lying without the curve, to be equal $79\frac{1}{3} + \frac{10}{3}\sqrt{5}$, as required.

XV. QUESTION 922, *algebraically anſwered, by Mr. John Cullyer, of Wicklewood, near Wymondham, Norfolk.*



Let AD = DB = r, DC = x, and m the given multiple; then is BC = $r - x$, AC = $\sqrt{r^2 - x^2}$, AB = $\sqrt{2r^2 - 2rx}$, and $m \cdot AC - AB = m \cdot \sqrt{r^2 - x^2} - \sqrt{2r^2 - 2rx}$ the maximum; this in fluxions gives $\frac{mx}{\sqrt{r^2 - x^2}} = \frac{r}{\sqrt{2r^2 - 2rx}}$; this reduced gives the quadractic equation $2m^2x^2 - rx = r^2$, the root of which is $x = \frac{r + r\sqrt{8m^2 + 1}}{4m^2}$.

ERRATA in the Supp. for 1789, viz. in the laſt page, 5th line, for *either equal to or greater*, read, *may be either leſs, equal to, or greater*: in line 20th, read $Ad = \frac{1}{2} AD$): in line 21ſt, $At = -10$: in line 21 and 22, read $Ab = \frac{4ad}{b^2 - 4ac}$, &c. in line 31, for *the two leaſt roots*, read *the two greateſt roots*.

To Ruricola. Sir, I believe the moſt eſteemed edition of Euclid's Elements, is that of Dr. Rob. Simſon, of Glaſgow; and that the eaſieſt and beſt books for a new beginner to learn Fluxions from, is either Mr. Rowe's, or Mr. Tho. Simpſon's. C. H.

To the gentleman who enquires after the republication of the Diaries from the beginning till the yea 11773 incluſive

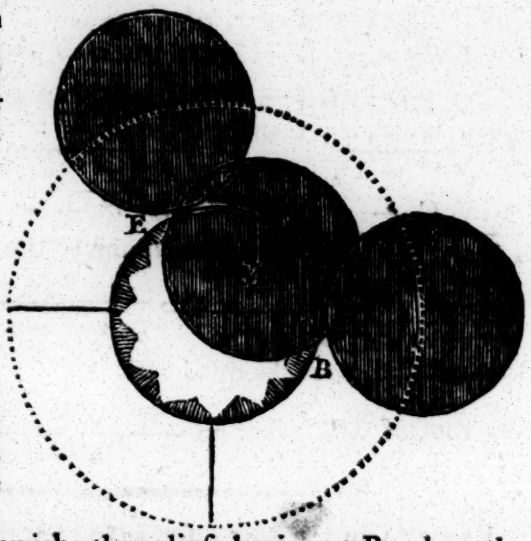
by Dr. Hutton, viz. the Mathematical parts in 3 neat volumes, the Poetical parts in 2 volumes, and his Mathematical Miſcellany in one volume, ſimilar to the former; it may be obſerved, that thoſe books are not yet out of print, but that they are ſtill to be had of Meſſrs. Robinſon, or Baldwin, in Paternoſter-Row.

Of the Eclipses, *&c. in* 1791.

In the courſe of this year there will happen four eclipſes, viz. two of the ſun, and two of the moon; and one of each luminary will be viſible in theſe parts; and the types, times, and circumſtances, are as follow:

I. The firſt is an eclipſe of the ſun, which will happen on Sunday, the 3d of April, a little after noon, as below:

	h	*m.*
Begins	0	17
Midd.	1	46
Ends	3	9
Durat.	3	52
Digits	7°	16′



the quantity eclipſed at the middle of the eclipſe, on the ſun's northern ſide. In the annexed type, drawn for London or Greenwich, the eclipſe begins at B, where the moon touches the ſun at about 6° below the ſun's horizontal diameter; the middle is at M, where the eclipſe is greateſt, the obſcured part of the diameter being about 7 $\frac{1}{4}$ parts out of 12, or the digits, as above; and the end is at E, a little to the left of the ſun's vertex.

This eclipſe is viſible in all parts of Europe, and in a great part of Aſia, Africa, and America. In parts towards the North of us, the eclipſe will be larger, and it will be annular along the central track, though no where total, becauſe the ſun's apparent diameter exceeds the moon's at that time: at Iceland, for inſtance, it will be annular about their 12 o'clock at noon.

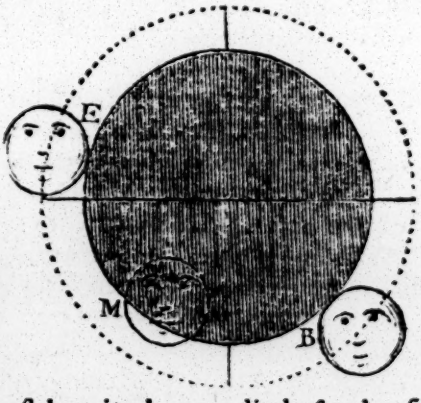
II. The ſecond is an eclipſe of the moon on the afternoon of Monday, the 18th of April. At Greenwich the eclipſe begins at 15 min. paſt 3, and ends at 9 min. paſt 6; and the

quantity eclipſed being 9° 24′, or rather more than three quarters of her diameter, on the ſouth or lower ſide; but it will not be viſible here, becauſe the moon will not then be riſen above our horizon. At the middle of the eclipſe the moon is vertical a little to the South-Eaſt of Batavia, ſo that the eclipſe will be viſible to all the ſouthern parts of the world, quite round the ſouth pole, and to about 10 degrees on the ſide fartheſt from Batavia; a ſpace including all Aſia to the coaſt of Ruſſia, the eaſtern parts of Africa, with New Holland, New South Wales, New Zealand, the Society and Friendly Iſles, as Otahaite, &c. New Hebrides, New Calidonia, the Iſles of Molacca, Borneo, Sunda, Madagaſcar, Java, Celebes, New Guinea, Japan, Yedſo, the Manillas, the Philippines, and all that part of the world.

III. The 3d is a ſolar eclipſe, on Tueſday the 27th of September, but not viſible in Europe. The conjunction is at 11 h. 43 m. in long. 6ˢ 40° 46′ the moon's latitude being then 44′ 40″ ſouth, and the ſun will be centrally eclipſed on the meridian at 12 h. 15½ m. in long. 176° 7½′ eaſt and latitude 54° ſouth, or a little ſouth of New Zealand, and ſo the eclipſe will be viſible to all the iſles of the great South Sea, as Otahaite and the Friendly Iſles, New Hebrides, New Holland, Botany Bay, New Zealand, &c. where it will be a very great eclipſe.

IV. The 4th, and laſt, is an eclipſe of the moon, which happens early on the morning of Wedneſday, the 12th of October, as follows:

	h.	*m.*
Begins	0	0
Midd.	1	36
Ends	3	12
Digits	9°	17′



or the quantity eclipſed is a little more than three quarters of the moon's diameter, on the northern or upper ſide; the beginning being at B, the middle at M, and the end at E. At the middle the moon is vertical between 6° and 7° north latitude, and near 24° weſt longitude, or a little ſouth of the Cape Verd Iſlands; and therefore the eclipſe will be viſible to all parts at leaſt within 90° of that point, quite around, a ſpace that includes all Africa, great part of the Indian Sea, the weſtern parts of Aſia, the Atlantic Ocean, all Europe, Iceland, Greenland, Newfoundland, moſt part of North and

South America, with the iſles of the Weſt Indies. To the weſtern parts of America the moon will riſe eclipſed, and at Madagaſcar and the Eaſt Indies, &c. ſhe will ſet eclipſed.

Remarks *on* Comets.

The Comet which was predicted to appear ſome time in the year 1789, has not yet been obſerved at the time of writing this; whether it has paſſed unobſerved, or whether the two comets obſerved by Appian and Hevelius were not really the ſame, or whether the attractions of the known, and perhaps unknown planets, may have influenced the comet to ſuch a degree as to change its path and time of appearance, are very uncertain. Within theſe two or three laſt years however ſome comets have appeared; whether any be the ſame with that which was predicted, or not; we ſhall from time to time announce ſuch new comets, and other remarkable phœnomena, as occur in the heavens, beginning with thoſe lately diſcovered by Miſs Caroline Herſchel.

This lady is the ſiſter of Dr. Herſchel, who diſcovered the new planet, and like himſelf an indefatigable obſerver of the heavens. She diſcovered her firſt comet at Slough, near Windſor, the 1ſt of Auguſt, 1786, about 10 at night; and it was ſeveral nights afterwards obſerved with teleſcopes, both by herſelf and other perſons. The comet paſſed between the Great Bear and the Northern Crown, appearing through the teleſcope like a nebulus ſtar, but rather brighter, and ſeemed to have a very imperfect and confuſed kind of gathered light about the middle, which could hardly deſerve the name of a nucleus. It had alſo, beſides a diffuſed coma, a very faint and ſcattered light towards the north following part, extending to about 3 or 4 minutes, and loſing itſelf inſenſibly.

The ſecond comet Miſs Herſchel diſcovered in the evening of the 21ſt of December, 1788, near the ſtar marked in the conſtellation the Lyre or Harp. Dr. Maſkelyne and Dr. Herſchel alſo viewed it, when it had the appearance of a conſiderably bright nebula; was of an irregular round form, very gradually brighter in the middle, and was about 5 or 6 minutes in diameter. No ſort of a nucleus could be perceived, which muſt have been ſeen had it amounted to a ſingle ſecond in diameter. And the ſame want of nucleus has alſo been remarked in ſome other comets of late.

FINIS.